REPORT

OF THE

DEPARTMENT OF HEALTH

OF THE

PANAMA CANAL

FOR THE

YEAR 1914

CHAS. F. MASON

Lieut. Colonel, Medical Corps, United States Army
Chief Health Officer, Balboa Heights, Canal Zone

WASHINGTON
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LETTER OF TRANSMITTAL.

DEPARTMENT OF HEALTH,
Balboa Heights, Canal Zone, February 23, 1915.

Col. GEO. W. GOETHALS,
Governor of the Panama Canal,
Balboa Heights, Canal Zone.

SIR: I have the honor to submit the following report of the operations of the department of health for the calendar year 1914.

Very respectfully,

CHAS. F. MASON,
Chief Health Officer.

GENERAL REMARKS.

One case of smallpox was removed from the Pacific Mail Steamship *Newport* on April 16, and recovered. With this exception, no cases of yellow fever, smallpox, or plague originated on or were brought to the Isthmus during the year.

The department was completely reorganized on April 1, as set forth in detail in my annual report for the fiscal year. There has been a steady reduction in force and expenses throughout the year. The cost of the department for the year was $1,094,682.92, as compared with $1,484,941.09 for 1913. The average number of employees on the rolls during the year was 44,329, as compared with 56,654 for 1913.

There has been a large shifting of population from all along the line toward the Pacific end of the canal. Two new towns, La Boca and Balboa, have come into being, the former with a population of about 4,000, and the latter about 1,200.

A census of the Canal Zone has been taken three times during the year, the last showing a net decrease of more than 14,000 persons since January, 1913. More than half of our employees are now living in Panama. The census of Panama and Colon, taken in August and September, 1914, showed an increase in the population of these cities of 12,828 in Panama and 9,099 in Colon.

During the year a general vaccination was done in all the schools of the Canal Zone, as well as those of Panama and Colon; 117 children were vaccinated in the Canal Zone, 5,186 in Panama, and 1,097 in Colon. The percentage of "takes" in the Canal Zone was 67; in Panama, 80; and in Colon, 80. In addition to the vaccinations in the schools, 33,204 other vaccinations were done, with a percentage of 68 "takes."

A plan for a thorough annual physical examination of all gold employees has been approved and the work was started in December.

VITAL STATISTICS.

Employees.

The health of employees has been better than in any previous year.

The total admission rate to hospitals for 1914 was 244.49, compared with 351.10 for 1913, and for disease alone 182.57, as compared with 246.91 for 1913.

The total death rate for 1914 was 7.04, as against 8.35 for 1913; and the death rate for disease 4.40, as compared with 5.24 for 1913. The noneffective rate for 1914 was 12.22, compared with 15.97 for 1913.

The changes in the regulations governing sick leave and admission to hospitals, which became effective soon after the reorganization, no doubt had some influence in reducing the admission and noneffective rates, but the fact that the death rate has also fallen decidedly shows that other factors are more important.

With regard to malaria, the death rate has been reduced more than 50 per cent since 1913 (0.16 in 1914, 0.37 in 1913), and the admission rate to hospitals more than 15 per cent (65 in 1914, 76 in 1913). The constantly noneffective rate, hospitals and quarters, which was only computed in the last five months of 1914, was 1.51.

There were no deaths from hemoglobinuric fever throughout the year; there were six such deaths in 1913.

In the latter half of the year a strong effort was made to compel employees suffering from malaria to continue the use of quinine after discharge from hospital for at least a month; failure to do so was punished by suspension or discharge. It is believed that this measure had had good effect.

Of the seven deaths from malaria four did not occur in hospital; one died without medical attendance, and in three others the diagnosis was clinical only, and therefore questionable.

The admission rate for typhoid fever 0.52 was more than 22 per cent less than for 1913, though the case mortality was higher, giving a death rate of 0.09 as against 0.07 for 1913.

In the latter half of the year a periodic physical examination, including urine and feces, has been made of all food handlers in the kitchens, mess rooms, and commissaries of the Panama Canal, with the result that one typhoid carrier and a number of cases of contagious diseases were detected and eliminated.

The admission rate for dysentery was 1.80 compared with 1.97 for 1913, but the death rate was slightly higher.

The death rate from pneumonia has increased from 0.83 in 1913 to 0.95 in 1914; all the deaths but one were among the black employees. The increase in the disease is probably due to unusual prevelance of measles and the overcrowded conditions in which the people live in Panama.

The five diseases causing the highest number of hospital admissions, with their rates, were as follows:

	Admissions.	Rate.
Malaria	2,884	65.06
Venereal diseases	1,001	22.58
Acute bronchitis	197	4.44
Mumps	122	2.75
Pneumonia	120	2.71

The five diseases causing the highest number of deaths, with their rates, were as follows:

	Deaths.	Rate.
Pneumonia	42	0.95
Tuberculosis	40	.90
Nephritis	22	.50
Heart, organic disease of	16	.36
Malaria	7	.16

Effects of Season.

The highest death rates for disease occurred in the months of March and May, and the lowest in November and August. The cause of the increased rates was an increase in the deaths from pneumonia and tuberculosis. The highest admission rates for disease were in January and March, and the lowest in November and May.

Effects of Race.

The admission rate to hospitals and death rate for disease for black employees were 191.93 and 4.63 per thousand, as compared with 523.63 and 3.13 from disease for white employees. The noneffective rate for disease and injuries for black employees per thousand was 10.16, as compared with 23.20 for white employees.

The admission rate to hospitals for malaria was 56.96 for blacks as compared with 108.06 for white employees.

The total death rate for Americans was 5.72, compared with 9.53 for Europeans; for disease, 2.67 for the former and 4.48 for the latter.

There were no deaths among Americans from malaria, dysentery, or typhoid fever during the year. The death rates among Europeans and blacks for these diseases were as follows:

	Europeans.		Blacks.	
	Deaths.	Rate.	Deaths.	Rate.
Malaria	2	1.12	5	0.13
Dysentery			4	.11
Typhoid fever			4	.11

Deportations.

The number of deportations was 176, divided as follows: Employees, 115; nonemployees, 61; disease, 140; and injury, 36.

Canal Zone.

With an average population of 46,379 in the Canal Zone there were a total of 710 deaths during the year; of these 614 deaths were from disease, giving a rate of 13.24 per thousand, as compared with 14.43 for the year 1913. The death rate from tuberculosis was 1.5; the percentage of all deaths was 10. But for the enormous infantile death rate among the negroes due to ignorance and indifference on the part of mothers, the showing would be still more favorable.

The birth rate based on the last five months of the year was 19. The infant mortality based on the same period was for white children under 1 year of age 29 per 1,000, and for colored children 347, with a general average of 252. Of the total deaths from disease, based on the last eight months of the year, the percentage under 5 years of age was 42.

Panama City.

The average population of the city for the year was 53,948, among whom there were a total of 1,863 deaths; of these, 1,772 deaths were from disease, giving a rate of 32.85 per 1,000, as compared with 30.21 for the preceding year. The death rates for malaria and dysentery were 1.91 and 0.69, respectively.

The birth rate based on the last five months of the year was 54.52. The infant mortality for the same period was 272.

Of the total deaths from disease based on the last eight months of the year the percentage under 5 years of age was 50.

The high death rate in Panama is due to several causes. It will be noted that 50 per cent of the deaths occurred in children under 5 years of age; they were due principally to gastrointestinal diseases, the result of ignorance and indifference on the part of mothers. Another factor of importance is the serious overcrowding in the tenement districts, the result of the rapid increase in the population of the city without a corresponding growth in housing facilities. In the recent census enumeration it was a frequent occurrence to find six or more persons sleeping in one unventilated room 10 by 10 feet. Tuberculosis gave a death rate of 4.26 and 12 per cent of the total deaths.

There was a small outbreak of beriberi commencing on July 21, with 1 case; 2 more cases were reported in August, and 16 in September; in October there were 2; November 4, and December 2; about half of the cases were from Chiriqui prison, the remainder were scattered, and a number were brought in from outside localities.

Out of 27 cases of typhoid fever which occurred in Panama, 20 were in the months of February to August, inclusive; nearly three-fourths of all the cases in the zone and Colon occurred in these same months, and were traceable to sewage-polluted oysters obtained in Panama.

Colon.

The average number of inhabitants for the year was 23,265, among whom there were 590 deaths; of these, 563 were from disease, giving a rate of 24.20 per 1,000 as compared with 22.74 for the year 1913. The death rates for malaria and dysentery were 0.86 and 0.17, respectively. The death rate for tuberculosis was 3.69, 14 per cent of the entire deaths from all causes.

The birth rate based on the last five months of the year was 48.60. The infant mortality for the same period was 194.

Of the total deaths from disease based on the last eight months of the year, the percentage under 5 years of age was 43.

DIVISION OF HOSPITALS.

There have been considerable reductions in the personnel of this division and the cost of same during the year. The number of employees on January 1, 1914, was 570, and on December 31, 1914, 392. The cost of the division was $883,356.49 in 1913, and for 1914, $596,858.24.

There were 919 charity patients admitted with a total of 49,939 days, as compared with 1,340 patients and 67,216 days in 1913. At a minimum average cost of $1 per day this represents an expenditure of about $50,000, of which $2,400 is returned by the department of civil administration.

The number of soldiers admitted to hospital increased from 405, with 5,938 days, in 1913, to 1,481, with 17,704 days, in 1914.

Ancon Hospital.

The average number of patients constantly present in Ancon Hospital during the year was 929, as compared with 1,159 for 1913; the average number of employees constantly sick was 452 for 1914 and 674 for 1913.

The gross cost of the hospital for the year was $461,056.64, as compared with $529,282.74 for 1913.

Complete plans and estimates have been prepared for the reconstruction of Ancon Hospital on a permanent basis, but the necessary funds have not yet been appropriated. Two of the wards have been condemned and abandoned as unsafe. All the buildings to the west of the nurses' quarters have been removed to make the ground available for other purposes.

FARM FOR DISABLED.

A number of male insane of the hospital were kept at the farm during the year and employed at farm labor, with excellent results. The farm has continued to render a useful service. The net per capita cost for maintaining the disabled was $0.69, as compared with $1.93 for 1913.

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BOARD OF HEALTH LABORATORY.

The following is a summary of work of special interest undertaken by the board of health laboratory staff during the year 1914.

An alleged outbreak of pneumonic plague in Colombia was investigated in May and found to be not plague but lobar pneumonia introduced into a susceptible native population. The death rate was high, and the epidemiologic features were somewhat similar to those seen in the outbreak of pneumococcus infections occurring among recently arrived West Indian and Colombian laborers in 1905–1907 in the Canal Zone.

A sanitary survey of the town of San Miguel, Pearl Islands, Bay of Panama, was made in November. Island malaria, entamebic and bacillary dysentery were encountered and data of medical and sanitary interest collected. The information was elicited that beriberi, which used to be rife among the pearl fishermen, was never encountered among the naked divers, who returned daily to the islands, but was met with exclusively among the contract divers, who used the helmet and were quartered and fed on boats which cruised around the islands, subsisting partly on canned provisions, and who frequently remained for months on the boats before coming ashore.

The preparation of a satisfactory smallpox vaccine was begun during the latter part of the year. This has resulted in a very material increase in the number of successful vaccinations made here, as well as reduced the cost of vaccine to the department.

The pathologic affinities of scurvy and beriberi were disclosed by the study of material from South Africa, and observations were made on infantile scurvy and infantile beriberi in two West Indian infants.

The insusceptibility of the native deer and the susceptibility of the sloth to *Tr. hippicum*—the trypanosome causing a fatal disease among horses in the Republic—was ascertained.

The subject of the physical and bacteriological behavior of germicides in emulsion, particularly "larvacide," has been pursued.

A series of microscopic examinations of smears from the placenta and peripheral blood of the mother has disclosed the interesting fact that the placenta sometimes affords an easy means of detecting malaria infection when the peripheral blood presents difficulties.

Data of some interest and importance have been collected relating to the subject of the breeding and feeding habits of *Stegomyia* and the common anophelines of the Canal Zone.

The tropical horse tick, *Dermacentor nitens*, undoubtedly the carrier of equine piroplasmosis of Panama, has been under observation and some facts of interest in its life history have been elicited.

Special pathologic studies of vascular syphilis among laborers employed on the canal have been made as well as analyses of the incidence of such pathological conditions as gallstones, duodenal and gastric ulcers, pancreatitis, pellagra, and hookworm disease.

Analyses of benign and malignant neoplasms encountered among employees during the past 10 years disclose some interesting features among which may be mentioned a higher incidence of carcinoma and sarcoma among negroes than has hitherto been recognized.

Daily examination of rats caught in Panama, Colon, and the Canal Zone have been made. During the last nine months of the year 8,104 rats were examined for plague and negative results were obtained in all. One suspicious bacterium obtained from the cervical gland of a rat worked out bacteriologically as a paracolon bacillus. Determination of the species of rats examined disclosed the following proportionate incidence of the different species: *M. norvegicus*, 54; *M. rattus*, 38; *M. alexandrinus*, 7; *M. musculus*, 60. It was noted that rats caught alive when received at the laboratory harbored as many as from 0 to 8⅘ fleas per rat; that when the rats were killed fleas began to leave the cadavers as early as fifteen (15) seconds after death, and after two hours and eight minutes the bodies were free from fleas. The flea infestation is very inconstant—some rats will harbor four or five fleas while others will have none. In October 44 rats harbored but 1 flea; in September 9 rats harbored 42 fleas; in April 7 rats harbored 62 fleas. The fleas were *Xenopsylla cheopsis*, the Indian rat flea. The method of catching the rat fleas was by combing and by the use of the chloroform box, but preferably by killing the rat by cephalotripsy and immediately placing it on a glass-rod grating over a large shallow collection of water. The fleas as they left the rat were picked out of the water by means of a pipette.

A number of pathological and biological specimens illustrative of local diseases as well as statistical charts and diagrams illustrating the sanitary and medical work in the Canal Zone, have been prepared for the Panama-Pacific Exposition.

INSANE DEPARTMENT.

The following is a report of the movement of patients in the asylum during the year:

	Employees.	Nonemployees.
Remaining January 1	30	250
Admitted	36	204
Died	1	50
Discharged	18	87
Transferred	22	68
Remaining December 31	25	249

The total number of admissions, discharges, deaths, etc. maintained an average as compared with other years.

Sixty inmates of both sexes, a majority of whom were West Indians, were deported, thereby relieving the department of a considerable expense for their maintenance.

After taking into consideration the therapeutic value of occupations for the insane, which practical experience has demonstrated to be the most powerful single means in the curative treatment of this class of patients, it was decided to avail ourselves of this measure, and to this end a number of male inmates were transferred

to the hospital farm at Corozal, and quartered in the building formerly used for Zone prisoners at that place. They were placed under the care of a male nurse and three attendants, and assigned to light work in clearing and planting about the gardens and fields. The benefits accruing to these inmates through such occupational diversion in the open air have been obvious and very encouraging.

When the institution at Ancon is ultimately removed to the new site at Corozal, where it will become an integral part of the farm, it is planned to afford congenial employment to a greater percentage of the patients, both male and female.

During the year the sewing and mending for the main hospital has been added to the work of the asylum sewing room, under the direction of an experienced seamstress, and has been very economically done. This, with the hand laundering, heretofore done at the asylum, whereby approximately all of the soiled linen of the insane is taken care of, provide regular employment for about 30 of the more tractable female patients, and many others of that sex are used in assisting in the ordinary routine work in the wards and dining room.

CHRONIC WARD.

On September 1, 1914, the chronic ward was transferred from Colon to Ancon Hospital. At the close of the year there were 28 chronic and incurable patients under treatment.

Detailed statistics are shown in Table XVIII.

Colon Hospital.

The old Colon Hospital grounds have been divided into two parts, the eastern end having been converted into a quarantine station, while the buildings in the western end are used for the maintenance of an emergency hospital of 50 beds. Plans and estimates have been completed for a new and permanent hospital on this site, but no appropriation has yet been made. The dispensary formerly located at Cristobal has been moved to and consolidated with Colon Hospital.

Detailed statistics are shown in Table XIX.

Taboga Sanitarium.

On January 16 the forces of the health department were withdrawn from the Taboga Sanitarium and the institution was turned over to the supply department for use as a hotel.

Detailed statistics are shown in Table XXI.

Palo Seco Leper Asylum.

A new building of four rooms has been erected by the paid labor of the patients in order to relieve the overcrowding among the male lepers.

A new water tank has been installed, which allows of the free use of water for all purposes at all times, whereas previously it was necessary to restrict the use in some very important particulars.

The isolation of the asylum, its lack of telephone connections, and its dependence on the Panama Canal for all necessities make a small power launch highly desirable, and one has been ordered.

At the beginning of the year there were 44 inmates. Fourteen patients were admitted during the year. There were 6 deaths, 1 discharge, and 2 transfers, leaving 50 patients in the asylum at the close of the year.

Detailed statistics are shown in Table XX.

Santo Tomas Hospital.

With the large increase in the number of inhabitants of the city of Panama, Santo Tomas Hospital has grown correspondingly, the average number of patients being now more than 50 per cent greater than at the beginning of the year.

Detailed statistics are shown in Table XXII.

District Dispensaries.

All sick camps have been abolished. The number of line dispensaries has been reduced from 15, at the close of 1913, to 8, at the close of 1914, and 2 of the 8 do not require the presence of a physician.

The stations having the highest admission rates for malaria were Corozal and Pedro Miguel with an average weekly percentage of 0.35 and 0.32, and the lowest, Gatun and Culebra, with 0.08 and 0.14.

Detailed statistics are shown in Table IX.

SANITATION—CANAL ZONE.

The number of sanitary inspection districts at the close of the year was 6, as compared with 12 at the close of 1913. All the stations to the west of the Canal, except Culebra, have been turned over to the military. The total cost of the division in 1914 was $172,941.50, as compared with $343,085.82 for 1913. The percapita cost of Zone sanitation proper per day, based on the number of employees, was $0.009, as compared with $0.014 for 1913.

The character of the work done has been of the same general nature as that in previous years. The great hydraulic fills on the west side of the old line of the Panama Railroad, between Balboa, Diablo, and Corozal, have been about completed, while new fills on the east side of the Panama Railroad in the same vicinity are approaching completion. These fills at first give us much trouble in controlling mosquito breeding, which occurs at the edges of the inundation; but eventually they will be of great assistance to us in the permanent control of the mosquito situation.

The work which was done last spring in cutting down the borders of Pedro Miguel River and Lake has been highly successful both from the point of view of economy and efficiency.

Detailed statistics are shown in Table XXV.

HEALTH OFFICES, PANAMA AND COLON.

A number of new and important sanitary ordinances, relating especially to rat-proofing against plague, and to the registration and reporting of births, deaths, and contagious diseases, have been adopted and put into effect in Panama and Colon, and the old ordinances are being rigidly enforced. The Panama Government has made some objection to the ordinance relating to births and deaths, but it is believed that this matter will be satisfactorily adjusted. In connection with the new ordinance relating to notification of infectious diseases, arrangements have been made with the board of health laboratory to make free examinations for all physicians to assist in the diagnosis of these diseases.

All the piers at both ends of the canal are being rat proofed, and two large rat-infested piers in Colon have been destroyed.

SANITATION—PANAMA.

Owing to the rapid growth in the population of the city of Panama, and the consequent considerable extension of the city toward the suburbs, much of the new construction had been in a very malarious locality, not hitherto requiring treatment; this will largely add to the expense of sanitation in that city, while the opening of many new streets and alleys has greatly increased the expense of street cleaning and garbage removal.

GENERAL SANITATION.

On April 1 a reorganization was made in the sanitary forces, reducing the number of districts in the city from five to four. Each sanitary inspector was given a small gang of laborers under his supervision with instructions to make a house to house inspection of his entire district once every seven days.

The routine work performed by these gangs consists in destruction of larvæ deposits, serving notices for correction of various forms of nuisances, and removing from private premises such material and rubbish as offer harboring and nesting places for rats.

District No. 1, known as the Calidonia-Guachapali district, which has a population of 18,000, and in which there is a good deal of antimalarial work to be carried on was provided with a larger force of men under the supervision of a sanitary inspector.

One inspector was assigned to the work of supervising the reconstruction of buildings to observe the rat-proofing features. One inspector gives his entire time to the supervision of street cleaning, and garbage collection and disposal. Another inspector has been filling the position of pure-food man, devoting his time to hotels, bottling works, bakeries, and dairies. An additional man has been spending his time chiefly in the work of vaccination and general utility work.

MOSQUITO, RAT, AND FLY WORK.

Mosquitoes.—Blue-print maps of the city have been put into use to determine the location of the occurrence of the greatest number of malaria cases. More than 90 per cent of all malaria for this city originates east of the Panama Railroad tracks.

In that district adjacent to the exposition grounds 39,905 feet of new ditches were constructed since September 1, being on either side of the Calidonia Road. Drip barrels and oil-soaked waste were placed to take care of the small streams and ditches in this district, and the use of knapsack sprays with oil and larvacide were also found of value.

Owners of lots who were holding same for speculation were notified in writing to perform the necessary work to prevent the breeding of mosquitoes, i. e., filling of pools and removal of vegetation from their property. Those failing to comply within a given time had the work performed by this office, and the expense billed to them. Cattle found at large on such vacant lots were first tagged, giving the owner a warning against a repetition of the nuisance, and if subsequently found at large the cattle were impounded, which resulted in some expense to the owner.

It has been found that the tracks of animals in the claylike soil afford very favorable breeding places for mosquitoes, and on this account a portion of the old unimproved Santa Ysabella Road was closed to use with barbed wire.

Old gutters punched in previous years were found to be containers, and many of these have been systematically removed. The ever-present red water jar is frequently found containing mosquito larvæ.

A lecture in Spanish was given on the mosquito and bottles of larvæ were placed in the public schools in an endeavor to awaken the interest of the Panaman youth, with undetermined results. It is proposed to carry out this plan each year, and should eventually have some effect on the mosquito situation in the city.

Rats.—A monthly average of 445 rats were taken along the water front in this city for examination for plague, and all the laboratory reports for the year have been negative. The cost per rat was a little less than 6 cents, including the cost of the bait, but not of the wear and tear on the traps.

Elevation of lumber in lumber yards was begun and the elevation of all scrap lumber on private premises was ordered as an antirat measure.

One of our inspectors, with a 1-gallon oil can, constructed a formaldehyde-gas generator, which he used very successfully with the aid of a three-eighths-inch rubber tube, in "smoking out" rats from their burrows. All possible openings of the rat-infested place were closed, with the exception of two, old sacking being stuffed into the holes. The potassium permanganate and formaline were placed in the generator, the tube inserted into one of the holes, and the men stood with clubs awaiting the exit of the rats, which was usually very prompt or not at all. This method is

very effective, particularly about old stables and old standing walls which have become rat burrows.

Flies.—Deposits of fly larvæ are reported daily by the sanitary inspectors, who destroy them with larvacide upon discovery. The lowest find for any month for 1914 was 289, the highest find being 1,336. In May flytraps of the Bath pattern were placed in the public market and proved very effective in the eradication of a number of flies at that place. Later these traps were removed to the public dump and supplemented by additional traps of a larger type, where they have been very successful in fly-catching. An average of 15 traps were in operation daily, and for the last four months of the year 676 quarts of flies were taken. It was found that decaying fish proved to be the best form of bait. Numbers of fly larvæ around the dump were destroyed by raking down of hot ashes upon them, and when this was impracticable, by application of larvacide. Ants and chickens were very helpful in the destruction of large numbers of larvæ, and after heavy rains it was commonly observed that many larvæ had been drowned.

Manure from the city stables, amounting to twenty-odd tons, is brought to the public dump daily for disposal, and up to date all attempts at cremation have been unsuccessful. The best that could be done was to place the manure in a large pile and thoroughly burn the edges to which point the fly larvæ would migrate. Although the interior of these piles would be smoldering we found on the top of the piles live fly larvæ, which would go to the stage of pupation, and large numbers of unhatched fly pupa would be discovered on these manure piles, which would seem to confirm the theory that it is necessary for the pupa to reach mother earth to successfully pupate. Manure heavily infested with fly larvæ was placed on the top surface of a manure pile and covered with a large flytrap. Daily inspection showed that practically no adult flies had been taken in this way, and the small house-fly pupa remained unhatched around and under the edges of the trap. Manure was placed in a zinc tub and permitted to become a depositing place for fly eggs. This was then covered with a specially designed flytrap, and after the pupation period had passed it was found that practically no flies had pupated, although large numbers of unhatched pupa were found remaining in the tub.

GARBAGE COLLECTION.

Eighty-five tons of garbage are collected daily in this city and hauled to the public dump for cremation. Cremation is successful in the dry months, but practically impossible during the heavy rains. In the better residence sections and in the shopping districts the garbage is collected at night.

Since April 1, 1,537 garbage cans have been placed in the city by this office, and of this number 856 have been provided with self-closing wooden covers, which have been found of very practical use in tenement houses. Many other cans were placed by local dealers.

STREET CLEANING AND SPRINKLING.

The cleaning and sprinkling of streets has been very effectively carried on for the year, and the expense for this and the garbage service account is lower for December than for any month since April 1.

PURE FOOD AND MISCELLANEOUS INSPECTIONS.

A board was appointed early in the year to decide upon a form of score cards for use in this city in connection with inspections of bakeries, hotels and restaurants, bottling works, dairies, and barber shops, and since the introduction of the scoring system, very marked improvement in all such establishments has been noted.

Through this means the health office has under supervision the following:

Bakeries	30
Bottling works	10
Hotels and restaurants	26
Barber shops	61
Dairies	61

An examination of the city milk supply is made at regular intervals and it has been found that generally the quality of the milk exceeds that of the requirements under the sanitary rules. A bacterial count was made in a few instances and found to be surprisingly satisfactory. The milk sale in the city is usually disposed of within a few hours after the milking hour.

WELLS.

During the last few months it was found that it was necessary as a sanitary measure to close certain wells in the city from which there had been water taken to be sold to the public.

Six such wells and tanks were closed and two others likewise sealed from which there was no selling of water. The practice of selling water from sources other than that of the reservoir is a menace to the public health and is to be discontinued.

BUILDINGS.

In reviewing the work carried on by the building department of this office, it is noted that since April 1, 1,229 permits of all kinds have been issued, of which 82 per cent have been completed.

The settlements of Trujillo and Pena Prieta were condemned and ordered to be removed, which work has almost been completed. This was undertaken on account of there being no water supply, streets, or sewers for these settlements, which had been for years a menace to the city. These houses were of the poorest type of construction and the occupants were constantly creating all forms of nuisances. A great many of these houses have been reerected by the owners in the village of Pueblo Nuevo, and others along the beach near Old Panama.

Permits for 216 new buildings have been completed since April 1, and the number of permits for repairs to old buildings amounts to

793. This work has been systematically carried on with the aid of a map of the city, and it has been the endeavor of the department to have all buildings in Panama placed in a sanitary condition with special reference to the rat proofing features, as provided in the sanitary regulations.

Detailed statistics are shown in Table XXV.

Sanitation—Colon.

During the past year the Colon health office has aimed at a comprehensive plan of operation by systematizing the various classes of work done so as to insure a well-rounded scheme of sanitation.

The inspection of all buildings, to secure conformity with the code has been carried out by one inspector covering the entire city of Colon daily. Cristobal was inspected weekly, as the quartermaster was also active there. The buildings in Mount Hope were inspected at least twice a week by the inspector there.

In Colon the old Pacific Mail Dock was condemned and removed, as well as Dock No. 1 of the Panama Railroad. The Panama Railroad Freight Depot and platform were rat proofed.

The old Hamburg-American building near Battery Morgan was condemned, and the beach in that section was cleaned up, having become in bad shape as a result of the construction work at Battery Morgan. The rear of the kitchen at the Washington Hotel was concreted to prevent fly breeding and to promote cleanliness there. A large number of buildings in Colon were condemned and either rebuilt or replaced by new structures, the most notable improvement probably being that on Front Street near the corner of Eleventh. Colon stables on Ninth Street were largely renovated, concrete sidewalks being installed in some cases and renewed in others, and the Arcia stables built in accordance with the regulations. The warehouse of the American Trading Co., on Broadway, which was badly rat infested was overhauled and made rat proof. Forty-three houses at Guava Ridge, 23 at Florencetown, and 16 at Mount Hope were condemned as hopelessly insanitary and destroyed.

An agreement was effected with the alcalde of Colon by which extensive repairs were effected in the sidewalks in many parts of the city.

The destruction and disinfection of garbage and manure was so carried on as to have reduced fly breeding in Colon to the irreducible minimum. The horns and hides from the slaughterhouse were cared for in such a way as to eliminate the fly breeding from that source which had formerly been a constant source of annoyance.

A successful experimental demonstration of the use of crude oil on one street in Colon during the recent dry month was made, and it is planned to extend this to other streets.

The work of beautifying and of protecting the Broadway Parkway, which is being done by the health office for the Panama Railroad, has been carried out. A number of specially interesting ornamental and economic plants and trees are being established there.

A considerable revenue has been derived from the sale of scrap and miscellany recovered at the dump.

The section known as Folks River Village was greatly improved by the construction of a concrete sea wall along the shore of that arm of the sea, which has long been a veritable dumping ground for all kinds of refuse. This sea wall makes a landing place for the cayucas and small schooners. This section also had curbing and sidewalks installed and platforms erected for the use of the charcoal traders.

The sewer system on Colon Beach was overhauled and improvements made by which long-standing nuisances were abated.

Garbage cans were put on the docks for the use of ships, and the old habit of polluting the dock basins with garbage was stopped.

A great saving in money and time was effected by an arrangement with the supply department by which the health office took over the collection of garbage and the grass cutting in Cristobal, consolidating that work with that done in Colon.

The examination of all premises and vacant lots was done by a weekly inspection by one inspector with a gang of laborers, to remove at once all nuisances requiring instant attention. This work resulted in the removal of an average of about three loads of trash and refuse daily in addition to the garbage. It also involved the serving of immediate notice on all violators of the code and on responsible property owners; the execution of the ordinance against stray dogs and domestic fowls and birds in the defined areas; the immediate discovery and repair of all sewer connections and installations found in bad order; the arrest of obstinate offenders against the code, and the prosecution of such cases in the alcalde's court.

For the purpose of seeing that the sanitary laws were fully carried out at all times, a weekly inspection was made at night.

Attention to food products and industrial establishments was carried out by daily inspection of the entire city, the commissary's various activities being handled directly by the health officer and the work in Colon directly by an inspector.

Of the 14 bakeries in Colon, all but two underwent considerable structural repairs at the initiative of this office, the two exceptions being two new bakeries. Five were condemned until the required repairs were made; two closed voluntarily pending these improvements. A number of employees in the bakeries were fined in the alcalde's court for violating the code and some were discharged by the bakers.

Retail stores in bakeries were required to keep bread in glass cases. The proper wrapping of bread sold was made the object of special effort. Street vendors of food products were required to use glass cases. Some 300 or more glass cases for bread and cooked food were installed in shops in Colon. Fruit stands were made to protect those fruits requiring it with glass cases, some of them using transparent celluloid. Bottling works were inspected daily, and some changes were effected in their arragement. Samples of new bottled drinks were sent to the laboratory for examination.

The Colon market was inspected twice daily, some new tables were installed, and some fish and meat condemned. A private fish-storage place was condemned until satisfactorily arranged. Cattle for slaughter at the slaughterhouse were examined before being slaughtered, and better care of the turtles secured. The Folk's River meat market was brought to a better state of cleanliness and quantities of meat in shops condemned for fly breeding. A model fowl coop was made and installed for the benefit of the keepers of fowls, and a number of others made to order. The ordinance in regard to the keeping of fowls in certain districts was carried out.

A periodic examination of milk sold in Colon was instituted, as well as inspection of the dairies.

The use of sanitary drinking cups in the Cristobal and Colon hotels was provided, and also in the schools.

In the work against rat-infestation experiments with different types of traps were carried on, with the result that a modification of the type known as the Marti trap was found the most effective. This trap could not be obtained because of the war. The E. Z. K. trap is also quite effective as a killing trap. The monthly catch rose to 250 rats per month. There are both the Norwegian brown and the English black rats here, the former predominating. Poison was also used where indicated. It is noteworthy that cocoanuts proved an exceedingly attractive bait. Food boxes in stables were required to be metal lined against rats, and the fowl coops also.

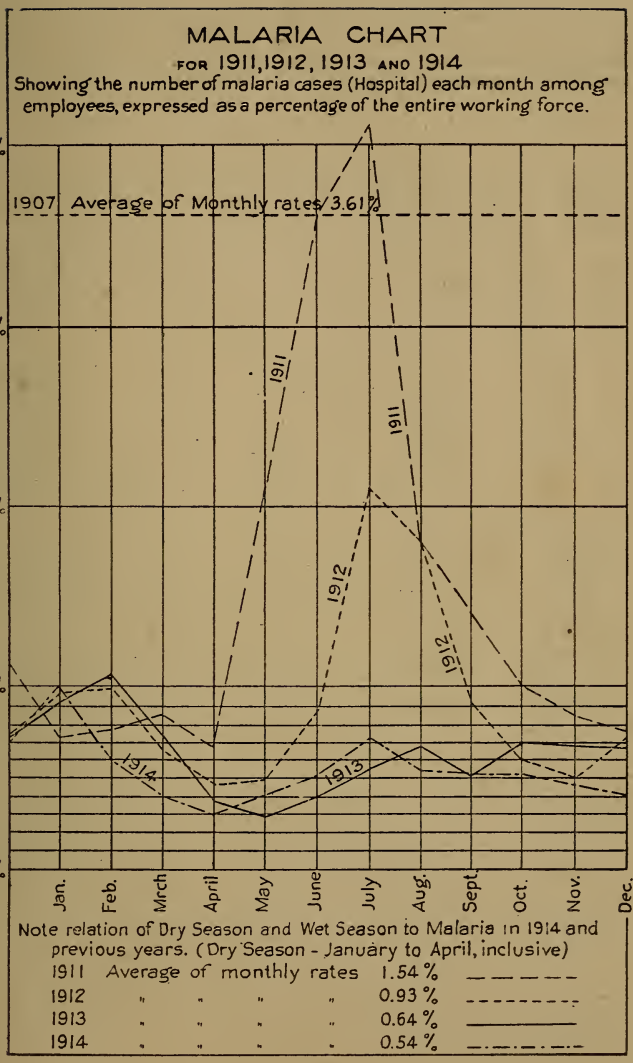
As regards mosquito eradication, the most notable work was the drainage of Mindi Island and the admission of sea water to places formerly full of fresh water. This work undoubtedly had much to do with the reduction of the mosquito catch from 1,000 to less than 50 daily. Other areas in Mount Hope district were also drained or flooded with sea water. The depopulation of certain places near old breeding grounds also seems to have led to a decrease in anopheles infestation and breeding. The filling in by dredges of some swamps in Mount Hope was commenced but had to be postponed on account of the construction of the east breakwater. The general effect of mosquito reduction may be discerned in the very low malarial rate in Colon for the latter part of the current year, the lowest, in fact, yet recorded here.

The cooperation of the principals of the schools has been obtained in the matter of reporting suspected cases of infectious disease and in regard to the vaccinating of pupils, and plans are on foot for special illustrated lectures on public health and hygiene, as well as for the inclusion of these subjects in the regular course of instruction in the Panamanian schools. All the school children in public and private schools were vaccinated under the direction of the health office.

The cooperation of the physicians of Colon was secured in reporting all notifiable diseases.

Arrangements were effected for the periodic disinfection of the city jails, and the central prison has been completely renovated.

The allocation of landing places for small vessels has been carried out by conference with other divisions and with the Panama


MALARIA CHART
FOR 1911, 1912, 1913 AND 1914
Showing the number of malaria cases (Hospital) each month among employees, expressed as a percentage of the entire working force.
4%
3%
2%
1%
0%
1907 Average of Monthly rates 3.61%
1911
1911
1912
1912
1914
1913
Jan.
Feb.
Mrch
April
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
Note relation of Dry Season and Wet Season to Malaria in 1914 and previous years. (Dry Season - January to April, inclusive)
1911 Average of monthly rates 1.54 %
1912 " " " " 0.93 %
1913 " " " " 0.64 %
1914 " " " " 0.54 %

Government, leading to concentration of these craft at places convenient for them and better arranged for sanitary purposes. The dredges in Colon Harbor have been regularly inspected and some sanitary improvements effected in most of them.

QUARANTINE DIVISION.

During the year the quarantine station at Culebra Island was removed to Balboa Dump, and the quarantine station at Colon from its old site to the new location in Colon Hospital grounds.

TABLE I.—ADMISSIONS, DEATHS, AND NONEFFECTIVE RATES FOR EMPLOYEES: DEATHS OF RESIDENTS OF PANAMA, COLON, AND THE CANAL ZONE.

ABSOLUTE NUMBERS.

Color.	Average number of employees.	Admission to hospitals.[1]			Deaths.			Noneffective from sickness.	
		Total.	Disease.	External causes.	Total.	Disease.	External causes.	Days treated.	Constantly noneffective.
Year 1914:									
White	7,024	3,678	3,028	650	47	22	25	59,480	162.96
Colored	37,305	7,160	5,065	2,095	265	173	92	138,350	379.04
Total	44,329	10,838	8,093	2,745	312	195	117	197,830	542.00
Year 1913:									
White	11,943	8,564	6,886	1,678	81	43	38	138,080	378.30
Colored	44,711	11,327	7,102	4,225	392	254	138	192,037	526.13
Total	56,654	19,891	13,988	5,903	473	297	176	330,117	904.43

PROPORTIONATE NUMBERS.[2]

Year 1914:									
White	7,024	523.63	431.09	92.54	6.69	3.13	3.56	.....	23.20
Colored	37,305	191.93	135.78	56.15	7.10	4.63	2.47	.....	10.16
Total	44,329	244.49	182.57	61.92	7.04	4.40	2.64	.....	12.22
Year 1913:									
White	11,943	717.07	576.57	140.50	6.78	3.60	3.18	.....	31.68
Colored	44,711	253.33	158.84	94.49	8.77	5.68	3.09	.....	11.76
Total	56,654	351.10	246.91	104.19	8.35	5.24	3.11	.....	15.97

[1] Admissions here mean discharges and deaths for 1913 and first 6 months of 1914, and admissions since then.
[2] Annual average per 1,000.

TABLE I.—ADMISSIONS, DEATHS, AND NONEFFECTIVE RATES FOR EMPLOYEES: DEATHS OF RESIDENTS OF PANAMA, COLON, AND THE CANAL ZONE—Continued.

DEATHS OF RESIDENTS OF THE CITIES OF PANAMA, COLON, AND THE CANAL ZONE

Place.	Population.	Deaths.			Annual average per 1,000.		
		Total.	Disease.	External causes.	Total.	Disease.	External causes.
Year 1914:							
Panama	53,948	1,863	1,772	91	34.53	32.85	1.68
Colon	23,265	590	563	27	25.36	24.20	1.16
Canal Zone	46,379	710	614	96	15.31	13.24	2.07
Total	123,592	3,163	2,949	214	25.59	23.86	1.73
Year 1913:							
Panama	47,172	1,507	1,425	82	31.95	30.21	1.74
Colon	20,232	489	460	29	24.17	22.74	1.43
Canal Zone	61,700	1,047	890	157	16.97	14.43	2.54
Total	129,104	3,043	2,775	268	23.57	21.50	2.07

TABLE II.—DEATHS BY AGE, COLOR, AND SEX.

Age.	White.			Colored.			Yellow.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Under 1 year	51	39	90	560	428	988	3	1	4	614	468	1,082
1 to 4 years	18	11	29	138	120	258	1	1	2	157	132	289
5 to 10 years	7	4	11	24	18	42	.....	.....	.....	31	22	53
11 to 20 years	10	6	16	46	58	104	.....	.....	.....	56	64	120
21 to 30 years	41	12	53	326	196	522	9	2	11	376	210	586
31 to 40 years	41	16	57	209	127	336	12	.....	12	262	143	405
41 to 50 years	28	10	38	122	82	204	6	1	7	156	93	249
51 to 60 years	22	10	32	90	37	127	1	.....	1	113	47	160
61 to 70 years	11	8	19	43	35	78	1	.....	1	55	43	98
71 to 80 years	3	6	9	12	23	35	2	.....	2	17	29	46
81 to 90 years	1	5	6	4	8	12	2	.....	2	7	13	20
91 to 100 years	.....	1	1	.....	1	1	.....	.....	.....	.....	2	2
Unknown	6	1	7	41	5	46	.....	.....	.....	47	6	53
Total	239	129	368	1,615	1,138	2,753	37	5	42	1,891	1,272	3,163

TABLE III.—DEATHS BY NATIONALITY.

Nations.	Employees.	Nonemployees.	Total.
Africa	.....	2	
Antigua	4	13	17
Bahama Islands	1	.....	1
Barbados	90	299	389
Belgium	.....	1	1
Brazil	.....	1	1
Central America	.....	1	1
Chile	.....	2	2
China	.....	37	37
Colombia	6	87	93
Costa Rica	1	6	7
Cuba	1	4	5
Curacao	1	2	3
Demerara	.....	4	4
Denmark	.....	2	2
Dominica	1	4	5
Ecuador	1	4	5
England	1	4	5
Fortune Islands	3	1	4
France	.....	13	13
Germany	.....	6	6
Greece	2	2	4
Grenada	5	9	14
Guadeloupe	6	11	17
Guiana, British	.....	3	3
Guatemala	.....	1	1
Haiti	1	4	5
Honduras	.....	1	1
India	.....	4	4
Ireland	.....	1	1
Italy	1	14	15
Jamaica	97	544	641
Japan	.....	2	2
Martinique	14	57	71
Mexico	.....	5	5
Montserrat	3	5	8
Nassau	1	2	3
Nicaragua	1	2	3
Panama	11	1,479	1,490
Peru	1	4	5
Portugal	.....	1	1
Russia	1	1	2
Salvador	1	2	3
St. Domingo	.....	2	2
St. Kitts	1	3	4
St. Lucia	5	44	49
St. Thomas	1	4	5
St. Vincent	3	9	12
Spain	6	30	36
Sweden	1	2	3
Switzerland	1	1	2
Trinidad	3	21	24
Turks Island	1	.....	1
United States	32	51	83
Venezuela	.....	12	12
West Indies	.....	14	14
Unknown	3	11	14
Total	312	2,851	3,163

TABLE IV.—CAUSES OF DEATHS OF EMPLOYEES OF THE PANAMA CANAL AND PANAMA RAILROAD.

Causes of death.	White.	Colored.	Total.
Disease.			
Alcoholism, acute	1		1
Aneurism	1	3	4
Angina pectoris		1	1
Apoplexy	2	3	5
Arterio-sclerosis		1	1
Cancer of buccal cavity		1	1
Cancer and other malignant tumors of stomach and liver	1		1
Carbuncle	1		1
Cerebro-spinal fever		1	1
Cholecystitis	1		1
Diphtheria		1	1
Drug habit	1		1
Dysentery:			
Bacillary		1	1
Unclassified		3	3
Empyema		1	1
Encephalitis	1		1
Endocarditis, acute and chronic		3	3
Fever:			
Malaria		3	3
Malarial, estivoautumnal	2	2	4
Typhoid		4	4
Gangrene		1	1
Heart, organic disease of	2	14	16
Infection of unknown origin		3	3
Intestinal obstruction		3	3
Leuchemia, lymphatic		1	1
Liver, abscess of	1	3	4
Lungs, gangrene of		2	2
Meningitis, pneumococcus		3	3
Nephritis:			
Acute	1	2	3
Chronic	2	17	19
Oesophagus, stricture of		1	1
Pericarditis		1	1
Peritonitis, simple		2	2
Pharynx, disease of		1	1
Pneumonia	1	2	3
Pneumonia, lobar		39	39
Pyemia and septicemia, pneumococcic		2	2
Septicemia		3	3
Septicemia, purulent infection and	1	2	3
Stomach, disease of		1	1
Stricture of urethra		1	1
Syphilis		1	1
Sudden death		1	1
Tetanus	1	2	3
Tuberculosis:			
Abdominal		1	1
Disseminated		18	18
Genito-urinary organs		1	1
Miliary		2	2
Pulmonary	1	17	18
Uremia		1	1
Ulcer, duodenal		2	2
Urethra, disease of		1	1
Undiagnosed	1		1

TABLE IV.—CAUSES OF DEATHS OF EMPLOYEES OF THE PANAMA CANAL AND PANAMA RAILROAD—Continued.

Causes of death.	White.	Colored.	Total.
Violence.			
Accidental traumatisms, various	3	15	18
Drowning, accidental	6	35	41
Dynamite explosions	4	6	10
Electric shock	6	1	7
Homicides	1	2	3
Lightning		1	1
Railroad accidents	3	23	26
Suicides	2	3	5
Total	47	265	312

TABLE V.—DEATH RATES AMONG AMERICANS AND WHITE FOREIGN EMPLOYEES.

	Cases.	Cause of death.	Number of deaths.	Annual average per 1,000.
Average number of white employees from the United States.	5,240	Disease	14	2.67
		External causes	16	3.05
		All causes	30	5.72
Average number of white women and children from the United States.	3,795	Disease	17	4.48
		External causes	2	.53
		All causes	19	5.01
Average number of white employees and their families from the United States.	9,035	Disease	31	3.43
		External causes	18	1.99
		All causes	49	5.42
Total number of Americans on the Canal Zone.[1]	11,468	Disease	31	2.70
		External causes	24	2.09
		All causes	55	4.79
Average number of white foreign employees (mostly Spaniards).	1,784	Disease	8	4.48
		External causes	9	5.05
		All causes	17	9.53

[1] The figures representing the total number of Americans on the Canal Zone include employees and their families and the officers and men of the United States Army and their families stationed on the Isthmus.

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
General diseases.				
Typhoid fever	8	2	4	14
Malaria	19	4	11	34
Malarial fever:				
Estivo-autumnal	31	7	16	54
Tertian	4			4
Quartan	1			1
Mixed		1		1
Undetermined	15		1	16
Clinical	28	8	5	41
Cachexia	4			4

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE—Continued.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
General diseases—Continued.				
Hemoglobinuric fever, malarial	1		1	2
Whooping cough	1		1	2
Diphtheria and croup	3		2	5
Croup			3	3
Influenza	1			1
Dysentery	25		2	27
Entamebic	5			5
Bacillary			1	1
Unclassified	7	4	3	14
Leprosy	2			2
Erysipelas	5			5
Hemoglobinuric fever, unqualified			1	1
Acute infections jaundice (Weil's disease)	1			1
Purulent infection and septicemia	5	2	6	13
Pyemia			1	1
Septicemia	9	4	4	17
Pyemia and septicemia, pneumococcic	2	1	1	4
Tetanus	17	2	4	23
Pellagra	37	9	3	49
Beriberi	12	1		13
Tuberculosis of the lungs	206	69	44	319
Acute miliary tuberculosis	3		4	7
Tuberculous meningitis	2	3		5
Abdominal tuberculosis	7			7
Pott's disease	1	1		2
Tuberculosis of other organs			1	1
Tuberculosis of the larynx	2	2		4
Tuberculosis of the genito-urinary organs			1	1
Disseminated tuberculosis	8	11	24	43
Rickets	3		1	4
Syphilis:				
Secondary	1			1
Tertiary	4	5	2	11
Hereditary	8	3	3	14
Period not stated	5	2	2	9
Gonorrheal orchitis and epididymitis		1		1
Cancer and other malignant tumors:				
Of the buccal cavity	3	1		4
Of the stomach and liver	8	1	2	11
Of the peritoneum, intestines, rectum	1	1		2
Of the female genital organs	9	2	1	12
Of the breast		1		1
Of other organs and of organs not specified	7		1	8
Other tumors (tumors of the female genital organs excepted)	1			1
Acute articular rheumatism	2		1	3
Chronic rheumatism and gout	1			1
Scurvy	2	2	1	5
Diabetes	1			1
Exophthalmic goitre		1		1
Leuchemia, lymphatic			2	2
Anemia, chlorosis	1		1	2
Chlorosis	1			1
Anemia:				
Primary, pernicious	3	1	1	5
Secondary, cause not determined			2	2
Other general diseases	1			1
Purpura hemorrhagica	1			1

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE—Continued.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
General diseases—Continued.				
Alcoholism:				
Acute or chronic	4	2	1	7
Acute	1	1	1	3
Chronic	4	1	.....	5
Drug habit	1	.....	1	2
Diseases of the nervous system and of the organs of special sense.				
Encephalitis	2	1	1	4
Simple meningitis	15	3	1	19
Cerebrospinal fever	1	.....	2	3
Pneumococcus meningitis	2	1	1	4
Other diseases of the spinal cord	.....	.....	1	1
Acute anterior poliomyelitis	2	.....	.....	2
Cerebral hemorrhage, apoplexy	23	19	9	51
Softening of the brain	3	1	3	7
Paralysis without specified cause	5	4	1	10
Other forms of mental alienation	1	.....	.....	1
Dementia precox	1	.....	.....	1
Epilepsy	2	2	1	5
Convulsions (nonpuerperal) (5 years and over)	1	.....	1	2
Convulsions of infants (under 5 years of age)	7	5	3	15
Other diseases of the nervous system	1	.....	1	2
Diseases of the ears	1	.....	1	2
Diseases of the circulatory system.				
Pericarditis	1	1	.....	2
Acute endocarditis	24	3	2	29
Malignant endocarditis	3	1	.....	4
Organic disease of the heart	45	32	36	113
Angina pectoris	1	2	1	4
Diseases of the arteries, atheroma, aneurysm, etc.	.....	1	.....	1
Aneurysm	1	2	4	7
Arteriosclerosis	21	4	3	28
Embolism and thrombosis	3	.....	1	4
Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)	.....	.....	1	1
Hemorrhage; other diseases of the circulatory system	2	2	.....	4
Diseases of the respiratory system.				
Diseases of the larynx	.....	1	.....	1
Acute bronchitis	43	46	5	94
Chronic bronchitis	5	6	.....	11
Broncho-pneumonia	97	23	34	154
Pneumonia (unqualified)	62	5	8	75
Lobar pneumonia	55	22	34	111
Pleurisy	8	1	1	10
Empyema	1	1	.....	2
Pulmonary congestion, pulmonary apoplexy	5	1	1	7
Gangrene of the lungs	3	.....	4	7
Asthma	5	.....	1	6
Pulmonary emphysema	1	1	.....	2
Other diseases of the respiratory system (tuberculosis excepted)	5	1	1	7

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE—Continued.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
Diseases of the digestive system.				
Diseases of the mouth and annexa	2			2
Stomatitis			1	1
Diseases of the pharynx	1			1
Follicular tonsillitis		1		1
Stricture of the esophagus		1	1	2
Ulcer of the stomach	2			2
Other diseases of the stomach (cancer excepted)	1		1	2
Acute gastritis	4	9	4	17
Chronic gastritis	1	4	1	6
Acute indigestion		3	1	4
Diarrhea and enteritis (under 2 years)	303	27	66	396
Colitis	21		3	24
Diarrhea and enteritis (2 years and over)	12	6	4	22
Colitis	4	1		5
Ankylostomiasis		1		1
Ascaridiasis	1			1
Appendicitis and typhlitis		1		1
Acute appendicitis	5		1	6
Hernia, intestinal obstructions	1	2	2	5
Other hernias	1			1
Intestinal obstruction	10	1	4	15
Other diseases of the intestines	2	2	1	5
Duodenal ulcer			2	2
Acute yellow atrophy of the liver	3			3
Cirrhosis of the liver	15	6	1	22
Biliary calculi	1			1
Other diseases of the liver	6			6
Abscess of liver (unqualified)	7		2	9
Abscess of the liver (entamebic)			2	2
Cholecystitis		1	2	3
Simple peritonitis (nonpuerperal)	7	3	5	15
Other diseases of the digestive system (cancer and tuberculosis excepted)	1			1
Nonvenereal diseases of the genito-urinary system and annexa.				
Acute nephritis	31	16	8	55
Bright's disease (chronic nephritis)	97	26	22	145
Other disease of the kidney and annexa	4		1	5
Pyelo-nephrosis		2	2	4
Calculi of the urinary passages			1	1
Diseases of the bladder	1			1
Diseases of the urethra, urinary abscess, etc	3		3	6
Hypertrophy of prostate	1			1
Uterine tumor (noncancerous)	2		2	4
Other diseases of the uterus		1	1	2
Cysts and other tumors of the ovary	1			1
Salpingitis and other diseases of the female genital organs	5		1	6
The puerperal state.				
Accidents of pregnancy	1	1	1	3
Extra-uterine pregnancy	1		1	2
Hyperemesis gravidarum	1			1
Abortion	2			2
Puerperal hemorrhage	2	2	1	5
Accidents of labor, other	1			1

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE—Continued.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
The puerperal state—Continued.				
Puerperal septicemia	8	2	6	16
Puerperal albuminuria and convulsions		1		1
Eclampsia	7	2	1	10
Following childbirth (not otherwise defined)		1	2	3
Puerperal insanity		1		1
Diseases of the skin and of the cellular tissue.				
Gangrene	1	1		2
Carbuncle			1	1
Acute abscess	2			2
Pemphigus contagiosus	1			1
Diseases of the bones and of the organs of locomotion.				
Diseases of the bones (tuberculosis excepted)	1	1		2
Osteomyelitis	3			3
Diseases of the joints (tuberculosis and rheumatism excepted)	1			1
Malformations.				
Congenital malformations (stillbirth not included)	5	2	2	9
Diseases of early infancy.				
Newborn child			1	1
Congenital debility, icterus, and sclerema	15	3	5	23
Premature birth	34	4	14	52
Congenital debility	20	26	15	61
Malnutrition	55	36	46	137
Other causes peculiar to early infancy (including various consequences of labor)	21	7	10	38
Lack of care	1		1	2
Old age.				
Senility	5	6	9	20
Affections produced by external causes.				
Suicide by—				
Poisoning	2		2	4
Hanging or strangulation			1	1
Drowning		1	1	2
Firearms	10		3	13
Cutting or piercing instruments	1		2	3
Poisoning by food			1	1
Other acute poisonings	3		1	4
Burns (conflagration excepted)	4		1	5
Absorption of deleterious gases (conflagration excepted)			1	1
Accidental drowning	12	11	29	52
Traumatism by—				
Firearms	4		2	6
Fall	2	5	4	11
Mines and quarries			2	2
Machines	4	2		6
Other crushings (vehicles, railroads, landslides, etc.)	6	1	4	11

TABLE VI.—CAUSES OF DEATHS OF EMPLOYEES AND CIVIL POPULATION AND PLACES WHERE CHARGEABLE—Continued.

Diseases.	Panama.	Colon.	Canal Zone.	Total.
Affections produced by external causes—Contd.				
Railroad traumatism	11	4	21	36
Dynamite traumatism	11	.....	6	17
Starvation	2	.....	.....	2
Lightning	.....	.....	1	1
Electricity (lightning excepted)	.....	.....	8	8
Homicide by—				
Firearms	11	1	.....	12
Cutting or piercing instruments	3	1	1	5
Other means	1	1	4	6
Fractures (cause not specified)	3	.....	.....	3
Other external violence	1	.....	1	2
Ill-defined diseases.				
Ill-defined organic disease	1	.....	1	2
Sudden death	4	1	1	6
Cause of death not specified or ill defined	16	2	18	36
Infections of undetermined origin	4	2	3	9
Total	1,863	590	710	3,163
Stillbirths	216	80	83	379
Grand total	2,079	670	793	3,542

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
General diseases.				
Typhoid:				
Fever	13	10	.....	3
Bacillus carrier	.....	1	.....	.....
Prophylaxis	1	.....	.....	.....
Malarial fever:				
Estivo-autumnal	379	1,279	1	2
Tertian	108	172	.....	.....
Quartan	1	22	.....	.....
Undetermined	1	.....	.....	.....
Clinical	261	647	.....	.....
Cachexia	5	4	.....	.....
Hemoglobinuric fever, malarial	4	.....	.....	.....
Vaccinia	3	1	.....	.....
Measles	2	39	.....	.....
Scarlet fever	2	.....	.....	.....
Diphtheria and croup	.....	.....	.....	1
Influenza	96	11	.....	.....
Dysentery	.....	7	.....	.....
Entamebic	10	7	.....	.....
Bacillary	3	5	.....	1
Unclassified	3	45	.....	3

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914—Continued.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
General diseases—Continued.				
Erysipelas	2	2		
Dengue	3			
Chicken pox		8		
Mumps	10	112		
Hemoglobinuric fever, unqualified	1	2		
Yaws		2		
Filariasis		2		
Acute infectious jaundice (Weil's disease)	1	1		
Other epidemic diseases	2			
Purulent infection and septicemia	3	8	1	5
Pyemia		2		
Septicemia		2		
Pyemia and septicemia, pneumococcic				2
Tetanus	1	1	1	2
Pellagra		5		
Beriberi	13	28		11
Tuberculosis of the lungs	5	54		5
Acute miliary tuberculosis		1		2
Tuberculous meningitis		3		1
Abdominal tuberculosis		3		
Tuberculosis:				
Bones and joints		1		
Other organs		1		1
Skin		1		
Genito-urinary organs		1		1
Tuberculous abscess		2		
Disseminated tuberculosis		3		18
Syphilis:				
Primary	4	6		
Secondary	32	42		
Tertiary	26	50		†1
Period not stated	22	215		
Gonococcus infection	2	1		
Gonorrhea	75	190		
Gonorrheal arthritis	4	32		
Gonorrheal bubo	2	11		
Gonorrheal orchitis and epididymitis	16	18		
Gonorrheal ophthalmia		1		
Soft chancre	45	157		
Adenitis chancroidal	20	30		
Cancer and other malignant tumors:				
Of the buccal cavity	1	1		1
Of the stomach and liver	1		1	
Of the peritoneum, intestines, rectum	1			
Of the female genital organs	1	1		
Of the skin	1	1		
Of others organs and of organs not specified	2	3		
Other tumors (tumors of the female genital organs excepted)	14	6		
Acute articular rheumatism	6	2		
Chronic rheumatism and gout	5	1		
Leuchemia lymphatic		1		1
Hodgkin's disease		2		
Anemia:				
Primary, pernicious	2			
Secondary, cause not determined	4			

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914—Continued.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
General diseases—Continued.				
Other general diseases	7	5		
Serum disease		1		
Purpura hemorrhagica	1			
Alcoholism:				
Acute or chronic	1	3	1	
Acute	23	6		
Chronic	4	4		
Alcoholic psychosis	1	4		
Chronic lead poisoning	1			
Other chronic poisonings	2			
Diseases of the nervous system and of the organs of special sense.				
Pneumococcus meningitis		1		3
Other diseases of the spinal cord		2		
Cerebro hemorrhage, apoplexy	2	3	1	1
Softening of the brain		2		
Paralysis without specified cause	3	5		
Other forms of mental alienation	5	21		
Dementia precox	4	16		
Epilepsy	5	12		
Hysteria	2	1		
Neuralgia	9	4		
Neuritis	30	4		
Other diseases of the nervous system	9	10		
Neurasthenia	23	5		
Diseases of the eyes and their annexa	95	150		
Follicular conjunctivitis	6	7		
Trachoma	2	2		
Diseases of the ears	57	32		
Diseases of the circulatory system.				
Pericarditis		4		
Acute endocarditis		2		1
Malignant endocarditis		1		1
Organic diseases of the heart	15	34	1	9
Aneurysm		2	1	2
Arterio-sclerosis	5	7		1
Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)	15	3		
Hemorrhoids	44	38		
Varicocele	31	3		
Phlebitis	2			
Diseases of the lymphatic system (lymphangitis, etc.)	4	4		
Lymphadenitis (nonvenereal)	36	58		1
Hemorrhage; other diseases of the circulatory system	1	7		
Diseases of the respiratory system.				
Diseases of the nasal fossæ	104	12		
Adenoids vegetations		2		
Myiasis of nasal fossæ and sinuses		1		

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914—Continued.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
Diseases of the respiratory system—Continued.				
Diseases of the larynx	1	1		
Laryngitis	1	3		
Diseases of the thyroid body	2	4		
Acute bronchitis	97	100		
Chronic bronchitis	11	5		
Broncho-pneumonia	5	4	1	1
Pneumonia (unqualified)	1	2		
Lobar pneumonia	5	103		40
Pleurisy	16	102		
Empyema	1	3		1
Pulmonary congestion, pulmonary apoplexy	1			
Gangrene of the lungs				2
Asthma	7	18		
Pulmonary emphysema		1		
Other diseases of the respiratory system (tuberculosis excepted)	1	1		
Abscess of lungs	3	1		
Diseases of the digestive system.				
Diseases of the mouth and annexa	8	5		
Diseases of the teeth and gums	8	15		
Stomatitis		2		
Diseases of the pharynx	97	42		1
Pharyngitis	11	8		
Follicular tonsillitis	32	23		
Diseases of the esophagus		1		
Foreign body in the esophagus		1		
Stricture of the esophagus				1
Ulcer of the stomach	18	3		
Other diseases of the stomach (cancer excepted)	24	3		
Gastractasis	1			
Acute gastritis	13	4		
Chronic gastritis	14			
Acute indigestion	13	18		
Colitis	3	2		
Diarrhea and enteritis (2 years and over)	24	12		
Colitis	6	11		
Ankylostomiasis	4	31		
Intestinal parasites	2			
Temiasis	2			
Appendicitis and typhlitis	12	1		
Acute appendicitis	42	8		
Chronic appendicitis	52	2		
Inguinal hernia	69	81		
Other hernias	7	1		
Intestinal obstruction				3
Other diseases of the intestines	77	15		
Constipation	44	12		
Duodenal ulcer	2	1		2
Acute yellow atrophy of the liver		1		
Cirrhosis of the liver	3	1		
Biliary calculi	4			
Other diseases of the liver	8	10		
Abscess of liver (unqualified)	2	2	1	1
Abscess of the liver (entamebic)	1	3		2

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914—Continued.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
Diseases of the digestive system—Continued.				
Cholecystitis	14	1	1	
Diseases of the spleen		2		
Simple peritonitis (nonpuerperal)	3			1
Other diseases of the digestive system (cancer and tuberculosis excepted)	4	1		
Nonvenereal diseases of the genito-urinary system and annexa.				
Acute nephritis	2	3	1	1
Bright's disease (chronic nephritis)	23	41	1	16
Other diseases of the kidney and annexa	18	10		
Movable kidney		1		
Pyelo-nephrosis	5	7		
Calculi of the urinary passages	8			
Diseases of the bladder	3	3		
Cystitis	6	3		
Diseases of the uretha, urinary abscess, etc.	8	18	1	1
Stricture of the uretha, nonvenereal	9	36		
Diseases of the prostate	1	2		
Chronic prostatitis		1		
Nonvenereal diseases of the male genital organs	21	41		
Hydrocele	13	34		
Uterine hemorrhage (nonpuerperal)	2	1		
Uterine tumor (noncancerous)		1		
Other diseases of the uterus	2	1		
Metritis	2			
Salpingitis and other diseases of the female genital organs	2	4		
Nonpuerperal diseases of the breast (cancer excepted)		2		
The puerperal state.				
Accidents of pregnancy		1		
Abortion		1		
Other accidents of labor	2	1		
Diseases of the skin and of the cellular tissue.				
Gangrene		1		1
Furuncle	32	21		
Carbuncle	7		1	
Acute abscess	45	72		
Phlegmon and cellulitis	37	30		
Scabies	1	1		
Pemphigus contagiosus	1			
Elephantiasis		2		
Dhobie itch	14	3		
Ulcer of the skin	8	52		
Tropical ulcer	1			
Ulcerating granuloma of the pudenda		1		
Impetigo contagiosa	4	2		
Urticaria	2	1		
Ingrowing nail	24	6		
Other diseases of the skin and annexa	35	20		

TABLE VII.—ADMISSIONS AND DEATHS OF EMPLOYEES IN THE HOSPITALS OF THE PANAMA CANAL, FROM ALL CAUSES, FOR THE CALENDAR YEAR 1914—Continued.

Diseases.	Admissions.		Deaths.	
	White.	Colored.	White.	Colored.
Diseases of the bones and of the organs of locomotion.				
Diseases of the bones (tuberculosis excepted)	23	11	.....	.....
Caries (nontuberculous)	1	.....	.....	.....
Mastoid abscess	1	.....	.....	.....
Osteomyelitis	1	.....	.....	.....
Periostitis	2	3	.....	.....
Diseases of the joints (tuberculosis and rheumatism excepted)	4	1	.....	.....
Ankylosis	2	.....	.....	.....
Arthritis	11	18	.....	.....
Synovitis	3	.....	.....	.....
Amputations	4	34	.....	1
Other diseases of the organs of locomotion	65	52	.....	.....
Malformations.				
Congenital malformations (stillbirth not included)	3	1	.....	.....
Old age.				
Senility	.....	2	.....	.....
Affections produced by external causes.				
Suicide by poisoning	.....	1	.....	.....
Poisoning by food	12	33	1	.....
Other acute poisonings	3	2	.....	.....
Conflagration	.....	1	.....	.....
Burns (conflagration excepted)	9	47	.....	.....
Traumatism:				
By firearms	5	10	.....	.....
By cutting or piercing instruments	17	244	.....	.....
By fall	25	228	.....	6
In mines and quarries	1	56	.....	1
By machines	13	119	.....	1
By other crushings (vehicles, railroads, landslides, etc.)	47	164	1	6
Railroad traumatism	6	85	2	8
Dynamite traumatism	2	29	1	.....
Traumatism by landslides	4	11	.....	.....
Injuries by animals	.....	1	.....	.....
Starvation	.....	1	.....	.....
Heat exhaustion	.....	1	.....	.....
Electricity (lightning excepted)	4	3	1	.....
Homicide by cutting or piercing instruments	1	1	.....	.....
Fractures (cause not specified)	54	50	.....	.....
Dislocations	.....	5	.....	.....
Sprains	44	29	.....	.....
Other external violence	386	948	.....	.....
Ill-defined diseases.				
Ill-defined organic disease	2	.....	.....	.....
Infections of undetermined origin	21	15	.....	3
No disease	11	21	.....	.....
Feigned disease	.....	2	.....	.....
Total	3,669	7,068	21	180

NOTE.—The admissions referred to above represent discharges for first six months and admissions for the last six months of 1914.

TABLE VIII.—CONSOLIDATED HOSPITAL REPORT.

Hospitals.	Remaining Jan. 1.		Admitted.		Died.		Discharged.		Transferred.		Remaining Dec. 31.	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Ancon Hospital.												
Panama Canal employees	179	340	2,909	5,294	15	121	3,000	5,288	28	49	45	176
Panama Railroad employees	8	51	396	990	3	33	389	963	3	11	9	34
Panama pay patients	....	2	.....	5	....	....	.....	2	....	5	....	....
Other pay patients	11[illegible]	67	3,710	1,235	43	117	3,613	1,116	23	24	147	45
Charity patients	1[illegible]	17	311	345	6	75	299	219	6	28	16	40
Insane employees	6	24	8	28	....	1	6	12	3	19	5	20
Insane nonemployees	23	227	33	171	4	46	13	74	10	58	29	220
Total	348	728	7,367	8,068	71	393	7,320	7,674	73	194	251	535
Corozal Farm: Panama Canal employees	9	36	5	36	....	....	4	27	2	10	8	35
Chronic ward: Charity patients	....	26	.....	43	....	1	.....	40	....	....	....	28
Colon Hospital.												
Panama Canal employees	5	11	232	542	2	14	203	413	27	115	5	11
Panama Railroad employees	1	11	77	318	....	13	69	217	6	87	3	12
Panama pay patients	....	....	29	83	2	14	15	32	11	36	1	1
Other pay patients	4	2	220	114	2	9	185	77	29	29	8	1
Charity patients	....	2	56	83	4	7	35	53	16	25	1	....
Total	10	26	614	1,140	10	57	507	792	89	292	18	25
Palo Seco Leper Asylum.												
Panama pay patients	2	28	1	8	1	5	.....	.....	....	....	2	31
Charity patients	2	13	.....	5	....	.....	.....	1	....	2	2	15
Total	4	41	1	13	1	5	.....	1	....	2	4	46
Taboga Sanitarium.												
Panama Canal employees	22	....	38	.....	....	....	60	.....	....	....	....	....
Pay patients	7	....	44	.....	....	....	51	.....	....	....	....	....
Total	29	....	82	....	....	....	111	.....	....	....	....	....
Grand totals.												
Panama Canal employees	215	387	3,184	5,872	17	135	3,267	5,728	57	174	58	222
Panama Railroad employees	9	62	473	1,308	3	46	458	1,180	9	98	12	46
Panama pay patients	2	30	30	9[illegible]	3	19	15	34	11	41	3	32
Other pay patients	127	69	3,974	1,34[illegible]	45	126	3,849	1,193	52	5[illegible]	155	46
Charity patients	18	58	367	47[illegible]	10	83	334	313	22	55	19	83
Insane employees	6	24	8	[illegible]8	....	1	6	12	3	19	5	20
Insane nonemployees	23	227	33	171	4	46	13	74	10	58	29	220
Total	400	857	8,069	9,300	82	456	7,942	8,534	164	498	281	669

TABLE IX.—CONSOLIDATED SICK CAMP REPORT.

Stations.	Remaining Jan. 1.		Admitted.		Died.		Discharged.		Transferred.		Remaining Dec. 31.	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Gamboa	....	5	5	65	....	....	4	65	1	5	....	....
Porto Bello	....	1	17	88	....	....	13	82	4	7	....	....
Toro Point	1	....	8	8	....	....	2	1	7	7	....	....
Total	1	6	30	161	....	....	19	148	12	19	....	....

CONSOLIDATED REPORT OF EMPLOYEES TREATED IN QUARTERS.

	Admissions to quarters.			Days lost in quarters.		
	White.	Colored.	Total.	White.	Colored.	Total.
Naos Island	11	158	169	24	307	331
Ancon	887	471	1,358	1,929	1,730	3,659
Balboa	581	158	739	1,199	296	1,495
Corozal	916	53	969	1,518	96	1,614
Pedro Miguel	183	.....	183	320	.....	320
Paraiso	178	3	181	483	6	489
Culebra	200	411	611	542	1,069	1,611
Empire	451	188	639	1,241	638	1,879
Gatun	315	220	535	729	741	1,470
Colon	1,120	882	2,002	2,478	4,574	7,052
Porto Bello	19	.....	19	30	.....	30
Toro Point	27	24	51	39	61	100
Margarita Point	3	36	39	6	35	41
Total	4,891	2,604	7,495	10,538	9,553	20,091

TABLE X.—CONSOLIDATED HOSPITAL, SICK CAMP, AND ADMISSION TO QUARTERS REPORT.

	Remaining Jan. 1.		Admitted.		Died.		Discharged.		Transferred.		Remaining Dec. 31.	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Hospitals	400	857	8,069	9,300	82	456	7,942	8,534	164	498	281	669
Sick camps	1	6	30	161	....	....	19	148	12	19	....	....
Total	401	863	8,099	9,461	82	456	7,961	8,682	176	517	281	669

TABLE X.—CONSOLIDATED HOSPITAL, SICK CAMP, AND ADMISSION TO QUARTERS REPORT—Continued.

	White.	Colored.	Total.
Total admissions to hospitals and sick camps, excluding Corozal Farm and chronic ward	8,094	9,382	17,476
Total admissions of employees to quarters	4,891	2,604	7,495
Total	12,985	11,986	24,971
Less number of patients transferred from sick camps and quarters to hospitals, and between hospitals whose admissions are duplicated in above figures	315	691	1,006
Net admissions to hospitals, sick camps, and quarters	12,670	11,295	23,965
Net admissions of employees to hospitals, sick camps, and quarters	8,356	9,444	17,800
Annual average per thousand of admissions of employees to hospitals, sick camps, and quarters	1,189.64	253:16	401.54

CONSOLIDATED DISPENSARY REPORT OF ALL CASES TREATED BUT NOT EXCUSED.

	Employees.			Nonemployees.			Total.		
	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Total.
Naos Island	1,594	14,484	16,078	1	5	6	1,595	14,489	16,084
Ancon	15,178	26,169	41,347	9,965	11,369	21,334	25,143	37,538	62,681
Balboa	42,107	45,860	87,967	2,024	2,013	4,037	44,131	47,873	92,004
Corozal	21,778	19,540	41,318	7,368	1,177	8,545	29,146	20,717	49,863
Pedro Miguel	5,587	11,519	17,106	4,621	1,194	5,815	10,208	12,713	22,921
Paraiso	8,341	16,166	24,507	3,993	4,815	8,808	12,334	20,981	33,315
Culebra	6,526	13,139	19,665	4,173	5,789	9,962	10,699	18,928	29,627
Empire	8,187	10,278	18,465	4,135	3,420	7,555	12,322	13,698	26,020
Gamboa	748	3,425	4,173	292	2,181	2,473	1,040	5,606	6,646
Gatun	8,664	17,225	25,889	7,312	5,449	12,761	15,976	22,674	38,650
Colon	10,876	23,673	34,549	5,893	4,663	10,556	16,769	28,336	45,105
Porto Bello	1,642	3,073	4,715	278	792	1,070	1,920	3,865	5,785
Toro Point	1,397	2,163	3,560	99	173	272	1,496	2,336	3,832
Margarita Point	1,074	3,974	5,048	.....	.....	.....	1,074	3,974	5,048
Total	133,699	210,688	344,387	50,154	43,040	93,194	183,853	253,728	437,581

TABLE XI.—AVERAGE NUMBER OF EMPLOYEES CONSTANTLY SICK IN HOSPITALS, SICK CAMPS, AND QUARTERS.

	White.	Colored.	Total.
Ancon Hospital	124.50	327.60	452.10
Colon Hospital	7.59	22.37	29.96
Taboga Sanitarium	1.64	.....	1.64
Total	133.73	349.97	483.70

TABLE XI.—AVERAGE NUMBER OF EMPLOYEES CONSTANTLY SICK IN HOSPITALS, SICK CAMP, AND QUARTERS—Continued.

	Sick camps.			Sick in quarters.		
	White.	Colored.	Total.	White.	Colored.	Total.
Naos Island				0.07	0.84	0.91
Ancon				5.28	4.74	10.02
Balboa				3.28	.81	4.09
Corozal				4.16	.26	4.42
Pedro Miguel				.88		.88
Paraiso				1.32	.02	1.34
Culebra				1.48	2.93	4.41
Empire				3.40	1.75	5.15
Gamboa	0.05	1.84	1.89			
Gatun				2.00	2.03	4.03
Colon				6.79	12.53	19.32
Porto Bello	.28	1.05	1.33	.08		.08
Toro Point	.03	.02	.05	.11	.16	.27
Margarita Point				.02	.09	.11
Total	.36	2.91	3.27	28.87	26.16	55.03

AVERAGE NUMBER OF EMPLOYEES CONSTANTLY SICK.

	White.	Colored.	Total.
Hospitals	133.73	349.97	483.70
Sick camps	.36	2.91	3.27
Sick in quarters	28.87	26.16	55.03
Total	162.96	379.04	542.00

AVERAGE NUMBER OF EMPLOYEES CONSTANTLY SICK PER 1,000.

	White.	Colored.	Total.
Hospitals	19.04	9.38	10.91
Sick camps	.05	.08	.07
Sick in quarters	4.11	.70	1.24
Total	23.20	10.16	12.22

TABLE XII.—AVERAGE LENGTH OF STAY IN HOSPITALS OR QUARTERS FOR EACH ADMISSION OF SICK EMPLOYEES.

	White.	Colored.	Total.
Hospitals:			
Ancon Hospital	13.18	18.40	16.59
Colon Hospital	9.01	9.51	9.38
Taboga Sanitarium	9.98	.....	9.98
Total	12.80	17.37	15.82
Sick camps:			
Gamboa	3.80	9.61	9.23
Porto Bello	5.94	4.33	4.58
Toro Point	1.33	1.12	1.24
Total	4.26	6.39	6.06
Quarters:			
Naos Island	2.18	1.94	1.96
Ancon	2.07	3.67	2.69
Balboa	2.06	1.87	2.02
Corozal	1.66	1.81	1.67
Pedro Miguel	1.75	.....	1.75
Paraiso	2.71	2.00	2.70
Culebra	2.71	2.60	2.64
Empire	2.75	3.39	2.94
Gatun	2.31	3.37	2.75
Colon	2.21	5.18	3.52
Porto Bello	1.58	.....	1.58
Toro Point	1.44	2.54	2.00
Margarita Point	2.00	.97	1.05
Total	2.15	3.67	2.68

TABLE XIII.—SUBSISTENCE AND OPERATING EXPENSES.

	Hospitals.	Sick camps.	Total.
SUBSISTENCE EXPENSES.			
Number of days' rations issued to patients	378,653	3,359	382,012
Cost of rations issued to patients	$97,386.56	$680.87	$98,067.43
Cost of subsistence per patient per day	$0.257	$0.202	$0.256
OPERATING EXPENSES.			
Number of days' relief furnished patients	378,653	4,051	382,704
Cost of operation	$522,411.77	$1,126.72	$523,538.49
Cost per capita per day	$1.379	$0.277	$1.367
Cost of operation with amount received from outside patients, etc., deducted	$295,703.38	$1,090.72	$296,794.10
Cost per capita per day with above deduction	$0.78	$0.269	$0.775
Cost of dispensaries	.....	.....	$80,084.68

TABLE XIII.—SUBSISTENCE AND OPERATING EXPENSES—Contd.

Financial statement.

	Health department expenditures calendar year—	
	1913	1914
Administration	$58,957.43	$28,106.95
Medicinal storehouse	6,556.87	6,399.73
Ancon Hospital	529,282.74	461,056.64
Colon Hospital	164,822.73	34,099.71
Taboga Sanitarium	29,455.62	867.39
Santo Tomas Hospital	11.634.83	10,883.50
Other hospitals and dispensaries	148,160.57	89,951.00
Quarantine service	58,414.68	51,107.31
Sanitation, proper—Panama	34,874.31	34,904.10
Disposal of garbage, street cleaning—Panama	21,001.49	54,215.05
Sanitation, proper—Colon	27,578.62	26,368.42
Disposal of grabage, street cleaning—Colon	18,838.14	21,940.52
Sanitation, proper—Canal Zone	289,840.40	143,365.47
Disposal of garbage, etc., Canal Zone	53,245.42	29,576.03
Construction and repair of buildings	22,587.96	87,378.55
Operation of Corozal Farm	9,689.28	14,462.55
Total	1,484,941.09	1,094,682.92

NOTE.—The figures shown above for 1914 do not include $39,486.64 obligations for gratuity reserve. This is omitted in order to make comparison with expenditures for 1913, when no reserve for gratuity pay had been made.

TABLE XIV.—PATIENTS OTHER THAN EMPLOYEES TREATED IN HOSPITALS, INCLUDING PALO SECO LEPER ASYLUM, AND AMOUNTS RECEIVED FOR THEIR TREATMENT.

	Remaining Jan. 1.	Admitted.	Total.	Number of days treated.	Amount.
Paid for by Panama Republic:					
Insane	173	128	301	65,527	$49,172.55
Colon Hospital	.....	112	112	651	1,137.73
Lepers	30	9	39	11,334	8,476.50
Total	203	249	452	77,512	58,786.78
For whom department of civil government pays $2,400 per year (charity)	153	875	1,028	49,686	2,400.00
Outside pay patients	55	1,310	1,365	13,346	55,172.26
Families of employees, etc. (Zone)	103	2,432	2,535	44,537	45,936.95
Soldiers	38	1,481	1,519	17,704	21,473.10
Residents of Panama, emergency charity cases	1	44	45	253	.....
Operations [1]	.....	.....	.....	.....	35,421.27
Total	553	6,391	6,944	203,038	219,190.36

[1] The amount received for operations is for the first 10 months of the year, since which time the amounts received from this source are included in the amounst received from the different classes of patients mentioned above.

TABLE XV.—SURGICAL OPERATIONS PERFORMED IN HOSPITALS.

	Number.	Died.
Amputations:		
Shoulder	2	2
Forearm	4	.....
Hip joint	1	1
Thigh	4	1
Leg	6	2
Foot	4	.....
Digits, multiple	38	1
Leg, double	5	5
Arm and leg	1	1
Operations on bones:		
Craniectomy—		
Decompressive	8	2
Exploratory	1	.....
Laminectomy	3	2
Ostiectomy	21	.....
Excision of maxilla	1	1
Resection of—		
Shoulder	1	.....
Elbow	1	1
Ankle	1	1
Wiring of fractures—		
Simple	73	.....
Compound	25	1
Adenectomy:		
Cervical	38	.....
Axiliary	3	.....
Inguinal—		
Single	252	.....
Double	79	.....
Femoral	22	.....
Herniotomy:		
Inguinal—		
Single	133	.....
Double	48	.....
Femoral	4	.....
Ventral	16	.....
Strangulated	14	1
Genito-urinary tract:		
Nephrotomy	2	.....
Nephrectomy	2	.....
Nephropexy	2	.....
Perinephritic abscess, drainage of	1	.....
Ureterotomy	2	.....
Cystotomy	1	.....
Urethrotomy—		
Internal	37	.....
External	40	1
Prostatectomy	3	.....
Varicocele, radical cure	25	.....
Hydrocele—		
Single, radical cure	43	.....
Double, radical cure	8	.....
Orchidectomy	4	.....
Epididyotomy	103	.....
Amputation of scrotum	27	.....
Curetage uteri	92	.....
Genito-urinary tract—Con.		
Perineoplasty	18	.....
Trachelorrhaphy	21	.....
Vaginal sections	2	.....
Vaginal punctures	4	.....
Obstetrical:		
Cæsarian section, abdominal	4	1
High forceps	1	.....
Low forceps	29	.....
Version	26	.....
Perineorrhaphy	7	.....
Thorax:		
Thoracotomy	11	2
Thoracoplasty	2	.....
Excision of—		
Breast	1	.....
Breast and axilla	2	.....
Rectum:		
Hemorrhoids, radical cure	119	.....
Fistula in anus, excision of	7	.....
Prolapsus rectum, radical excision	3	.....
General:		
Thyroidectomy	11	.....
Aneurismorrhaphy	1	.....
Varicose veins, excision of	23	.....
Tenorrhaphy	17	.....
Excision of surface neoplasms	52	.....
Gunshot wound of soft parts, operation for	1	.....
Extensive injuries to soft parts, operation for	9	.....
Plastic operation for—		
Congenital defect	3	.....
Severe injuries	12	1
Effects of disease	14	.....
Skin graft	13	.....
Laparotomy:		
For general peritonitis	3	1
For tuberculous peritonitis	2	1
For intestinal obstruction	7	5
Exploratory	9	2
Gastrotomy	2	1
Gastro-enterostomy	5	1
Entero-enterostomy	3	1
Enterectomy	3	2
Appendectomy	213	1
Appendectomy with—		
Local peritonitis	27	1
General peritonitis	5	2
Cæcostomy	1	1
Colostomy	5	1

TABLE XV.—SURGICAL OPERATIONS PERFORMED IN HOSPITALS—Continued.

	Number.	Died.		Number.	Died.
Laparotomy—Continued.			Laparotomy—Continued.		
Cholecystostomy	16	1	Plastic operation for chronic pelvic peritonitis	43	.....
Cholecystectomy	7	1	For ectopic gestation	3	.....
Abscess of liver—			For trauma:		
Laparo-hepatotomy for	8	3	General peritonitis	2	1
Thoraco-hepatotomy for	5	2	Hematoperitoneum	2	2
Splenectomy	2	1	Rupture of—		
Pan-hysterectomy	6	.....	Liver	1	1
Supravaginal hysterectomy	47	1	Spleen	2	.....
Hysteromyomectomy	38	1	Gunshot wound of abdomen	1	.....
Myomectomy	6	.....	Stab wound of abdomen	2	.....
Salpingectomy—			Major operations, various other	65	.....
Single	8	.....	Minor operations, various	1,829	3
Double	6	.....			
Salpingo-oophorectomy	18	1	Total	4,060	60
Suspensio-uteri	44	1			

The above figures represent the number of operations performed; in some instances two or more are performed upon one patient.

TABLE XVI.—OPERATIONS AND WORK PERFORMED IN EYE, EAR, NOSE, AND THROAT CLINICS.

Operation.	Number.	Operation.	Number.
Adenectomy	138	Removal of foreign body from esophagus	2
Abscess, alveolar	1	Resection, internal rectus	1
Bowman's dilatation of lacrymal duct	3	Rhino plastic	2
Canthotomy	1	Sarcoma of nose, excision	1
Capsulectomy	8	Septal spurs	1
Cataract, needling	1	Sequestrotomy	1
Enucleation	4	Sinusotomy	7
Evisceration	4	Sinusotomy, nasal	3
Excision of chalazion	2	Submucous resection of nasal septum	131
Expression for trachoma	10	Suture, lacerated sclera	1
Extraction of cataract	16	Sublingual abscess, incised	2
Glaucoma, trephine	1	Tarsalectomy for trachoma	1
Iridectomy	21	Tenotomy	6
Lacrymal gland, excision	1	Tonsillectomy	270
Lingual abscess	1	Tucking:	
Mastoidectomy	9	Internal rectus	2
Ossiculectomy	1	External rectus	10
Plastic on ear	3	Turbinectomy	4
Plastic on eyelid	1	Various minor operations	523
Plastic on nose	4		
Polypoid growth tonsil removed	2	Total	1,271
Pterygium:		Refractions	2,195
Excision	28	Outside cases treated	12,479
Transplantation	35		
Resection, external rectus	2	Grand total	15,945
Removal of nasal polyp	6		

TABLE XVII.—CONSOLIDATED WARD LABORATORY REPORT OF ALL HOSPITALS.

	Number.		Number.
Blood examinations	12,946	Stool examinations—Contd.	
Estivo-autumnal	2,276	Cercomonas, intestinalis	45
Tertian	497	Bathriocephalus	1
Mixed tertian and estivo-autumnal	29	Urine examinations	23,883
Quartan	44	Albumen	7,026
Differential blood counts	727	Albumen and casts	5,273
Leucocyte counts	2,098	Sugar	60
Red blood counts	120	Pus and blood	4,917
White blood counts	41	Gonococci	3
Hemoglobin estimations	1,558	Indican	270
Relapsing fever	2	Epithelium	1,586
Stool examinations	9,189	Bile	123
Ascaris lumbricoides	368	Microscopical examinations	12
Uncinaria ova	1,215	Trichomonas vaginalis	8
Tricocephalus dispar	993	Hemin crystals	11
Strongyloides intestinalis	486	Guaiac tests	68
Tenia saginata	1	Ciliated monads	13
Ameba	43	Sputum examinations	2,100
Entameba	34	Tubercle bacilli	323
Ciliated monads	185	Ameba	6
Bilharzia	9	Blood	0
Pus and blood	1,266	Elastic tissue	2
Pus and epithelial cells	1	Miscellaneous examinations of—	
Balantidium coli	8	Pleural effusions	6
Oxyuris vermicularis	2	Various smears and discharges	349
Entameba, histolytica and tetragena	24	Spinal fluid	11
Guaiac tests	82	Vaginal and urethral discharges	149
Bismuth crystals	54		

TABLE XVIII.—ANCON HOSPITAL—NATIONALITY OF PATIENTS.

Class.	Number treated.	Americans.		Other nations.	
		White.	Colored.	White.	Colored.
Panama Canal employees	8,722	1,804	6	1,098	5,814
Panama Railroad employees	1,445	223	1	152	1,069
Panama pay patients	7	.....	.....	.....	7
Other pay patients	5,128	2,823	1	930	1,374
Charity patients	689	248	1	72	368
Insane employees	66	4	8	.....	54
Insane nonemployees	454	15	30	.....	409
Total	16,511	5,117	47	2,252	9,095

Number of days' relief furnished patients 338,339
Cost of subsistence per patient per day $0.251

TABLE XIX.—COLON HOSPITAL—NATIONALITY OF PATIENTS.

Class.	Number treated.	Americans.		Other nations.	
		White.	Colored.	White.	Colored.
Panama Canal employees	790	99	.....	132	559
Panama Railroad employees	407	47	.....	29	331
Panama pay patients	112	10	.....	21	81
Other pay patients	340	128	.....	101	111
Charity patients	141	33	.....	26	82
Total	1,790	317	.....	309	1,164

Number of days' relief furnished patients 15,338
Cost of subsistence per patient per day $0.336

NOTE.—Operations at Ancon and Colon Hospitals (see report of all surgical operations). Laboratory reports of Ancon and Colon Hospitals (see consolidated ward laboratory report).

TABLE XX.—PALO SECO LEPER ASYLUM—NATIONALITY OF PATIENTS.

Class.	Number treated.	Americans.		Other nations.	
		White.	Colored.	White.	Colored.
Panama pay patients	39	.....	.....	3	36
Charity patients	20	.....	.....	2	18
Total	59	.....	.....	5	54

Number of days' relief furnished patients 17,729
Cost of subsistence per patient per day $0.274

TABLE XXI.—TABOGA SANITARIUM—NATIONALTITY OF PATIENTS.

Class.	Number treated.	Americans.	Other nations.
Panama Canal employees	60	59	1
Pay patients	51	50	1
Total	111	109	2

Number of days' relief furnished patients 524
Cost of subsistence per patient per day $0.692

NOTE.—No colored patients treated at Taboga Sanitarium.

TABLE XXII.—SANTO TOMAS HOSPITAL.

Class.	Remaining Jan. 1.	Admitted.	Died.	Discharged.	Remaining Dec. 31.
Pay cases	16	1,323	26	1,263	50
Charity patients	336	9,636	757	8,770	445
Total	352	10,959	783	10,033	495

Average number of days' treatment per patient	13.10
Average number of patients constantly sick	388.22
Number of days' relief furnished patients	141,702
Cost of subsistence per patient per day	$0.24

NATIONALITY.

Class.	Number treated.	Americans.		Other nations.	
		White.	Colored.	White.	Colored.
Pay cases	1,339	19	.....	537	783
Charity patients	9,972	18	.....	1,037	8,917
Total	11,311	37	.....	1,574	9,700

OPERATIONS.

	Number.	Died.
Major	1,188	34
Minor	451	.....
Total	1,639	34

DISPENSARY.

Class.	White.	Colored.	Total.
Natives	974	4,116	5,090
Foreigners	1,071	3,750	4,821
Total	2,045	7,866	9,911

TABLE XXIII.—BOARD OF HEALTH LABORATORY.

	Number.
Bacteriological examinations:	
Water	5
Milk	15
Fluids and exudates	36
Blood cultures	230
Throat cultures (diphtheria suspects)	264
Cultures from autopsies	57
Cultures from eye	4
Stool cultures	989
Urine cultures	1,157
Sputum	8
Pus	22
Hydrocele fluid	1
Knee-joint fluid	13
Spinal fluid	25
Various smears and specimens	15
Pleural fluid	1
Plague suspect	1
Fluid from chest	3
Hand lesion	1
Abdominal fluid	3
Fluid from pleural cavity	2
Fluid from gall bladder	4
Panama oysters (consignments)	2
For quarantine officer	2
Curetage	2
Placenta	1
Lymphnode	1
Autopsy material (veterinary)	3
Oysters	1
Feces for uncinaria	2
Rats	1
Determinations: Moisture and volatile matter in soil	6
Examinations:	
Stomach contents	2
Leper suspects	28
Animals	63
Rats	8,104
Microscopic, for chief quarantine officer	17
Blood of employees, for malaria	158
Provisions	3
Chemical examinations:	
Pancreatic cyst	1
Oleum rinci	1
Boric acid	1
Chloral	1
Carbolic acid	1
Specimen for division of police	1
Urinary calculus	2
Stools	1
Sodium phosphate	1
Alcoholic beverages	4
Powder	1

	Number.
Chemical examinations—Continued.	
Gallstones	1
Stomach contents	16
Urine	399
Various liquids, fluids, etc	103
Various metals	1
Paste	1
Sugar cane	2
Oil, transformer-room	5
Brass borings	2
Cottonseed hulls and meal	2
Seeds of I plant, Cassia occidentalis L. (coffee senna)	1
Pyrene (fire extinguisher)	2
Drugs and chemicals, for purity	69
Preparation of dark fluid and U-tube, for testing hydroelectric plant, Gatun	1
Vomitus	1
Larvacide, to determine deterioration	1
Milk	145
Limestone, Corozal Farm	1
Liquid substance (poison), for division of police	2
Dairy feed	12
Flour	2
Agglutination reactions [1]	77
Autopsies [1]	372
Bodies embalmed [1]	66
Pathological tissues prepared, frozen [1]	266
Pathological tissues prepared, paraffin [1]	4,180
Surgical pathological tissues and neoplasms reported [1]	306
Vaccinations, antipest [1]	5
Vaccination, smallpox [1]	14
Vaccine inoculations, antityphoid [1]	39
Vaccine treatment, autogenous, prepared [1]	36
Water, sanitary analysis of [1]	1
Wasserman reactions [1]	2,851
Microscopic examination of stools [1]	4
Preparations of salvarsanized serum for intraspinous treatment [1]	5
Medical legal investigations [1]	5
Preliminary work on preparation of smallpox vaccine.	

[1] Not included under the heading "Chemical examinations."

TABLE XXIV.—ISSUES OF QUININE.

Month.	Kilograms.	Pounds, avoirdupois.	Month.	Kilograms.	Pounds, avoirdupois.
January	34.5	76.06	September	37.00	81.57
February	47.00	103.62	October	21.00	46.30
March	29.2	64.38	November	22.50	49.60
April	32.00	70.55	December	12.10	26.68
May	12.00	26.46			
June	43.00	94.80	Total	321.30	708.36
July	20.00	44.09	Average per month	26.775	59.03
August	11.00	24.25			

TABLE XXV.—SANITATION.

CITY OF PANAMA.

Mosquito, rat, and fly work:	
Miles of ditches cleaned	116.6
Miles of ditches dug	7.4
Cess pools cleaned	11
Cubic yards of earth used in filling cesspools, wells, and holes	4,035
Square yards pools oiled	587,784
Water containers treated	524,610
Mosquito-breeding places found	6,225
Fly-breeding places found	6,277
Quarts of flies trapped	676
Rats trapped	1,952
Disinfection work:	
Houses disinfected for diphtheria	2
Houses disinfected for chickenpox	1
Houses disinfected for scarlet fever	2
Houses disinfected for measles	1
Houses disinfected for typhoid fever	3
Houses disinfected for simple meningitis	1
Cubic feet disinfected	108,700
Rooms disinfected	32
Material used:	
Crude oil.....gallons	3,116
Larvacide.....do	6,784
Inspection of houses and yards:	
Houses and yards inspected	45,690
Notices served and nuisances abated	998
Old buildings condemned	1,021
Buildings demolished	290
Yards cleaned	2,535
Loads of refuse removed from the city	4,219
New buildings:	
Plans for new buildings approved	375
Permits granted for repairs to old buildings	1,064
Garbage collection:	
Loads of garbage removed to dump and burned	49,807
Total number of cans of garbage emptied	842,647
Total number of garbage cans placed	1,537
Street cleaning:	
Square yards of streets cleaned daily	566,667
Square yards of streets sprinkled daily	92,222
Persons vaccinated	13,111

COLON, CRISTOBAL, MOUNT HOPE, AND TORO POINT.

Water and sewers:	
Connections made during the year	45
Total connections made to date	1,166
Outstanding permits	509
Houses in which extensions were made	50
Houses:	
Plans approved	44
Permits to repair issued	671
Permits to occupy issued	42
Temporary permits to occupy issued	6
Bills collected for work for private parties	114
Sanitation of Colon:	
Loads of yard garbage removed	5,594
Average number of cans of garbage removed daily	2,252
Acres of vegetation removed	176
Acres of streets cleaned	9,878
Private properties cleaned	893
Square yards of pools oiled	295,250
Mosquito-breeding places destroyed	1,402
Water receptacles treated	312,469
Linear feet of ditches constructed	383
Miles of ditches maintained	14.1
Notice to abate nuisances served	1,131
Nuisances abated	1,717
Buildings inspected	43,199
Rats killed	1,342
Square yards of alleys cleaned	6,730,433
Square yards of streets sprinkled	398,000
Fly-breeding places destroyed	961
Gallons of larvacide used (7 months)	2,725
Gallons of crude oil used	1,382
Doses of quinine issued	38,999
Dogs killed	170
Cubic feet disinfected	517,824
Cubic feet fumigated	8,400
Colon and Cristobal garbage disposed of at dump, Colon.	
Sanitation of Cristobal:	
Square yards of pools oiled	49,290
Water receptacles treated	42,979
Mosquito-breeding places destroyed	208
Mosquitoes killed in barracks	4,857
Fly-breeding places destroyed	108
Mosquitoes killed in cars	2,185
Buildings inspected	2,360
Gallons of larvacide used (7 months)	299
Gallons of crude oil used	416
Loads of yard garbage removed	273
Cans of garbage removed	31,869
Square yards of vegetation removed	243,785
Sanitation of Mount Hope:	
Square yards of pools oiled	999,550
Water receptacles treated	215,100
Miles of ditches maintained	67.4
Mosquito-breeding places destroyed	1,640
Miles of ditches constructed	6.6
Mosquitoes killed in outfit cars	40,932
Mosquitoes killed in barracks	137,791
Gallons of crude oil used (7 months)	15,588
Gallons of larvacide used (7 months)	2,314
Rats killed	7
Cans of garbage removed	7,366
Square yards of vegetation removed	390,796
Mount Hope Cemetery maintained.	

Sanitation of Toro Point:	
Square yards of pools oiled	57,332
Water receptacles treated	11,240
Mosquito breeding places destroyed	60
Linear feet of ditches maintained	39,470
Doses of quinine tonic distributed	12,195
Cubic yards of old ditches reconstructed	1,353
Adult mosquitoes killed	5,700
Pit closets oiled	12
Fly-breeding places destroyed	4
Gallons of larvacide used (seven months)	108
Gallons of crude oil used (seven months)	439
Persons vaccinated	1,458
Mindi Island:	
Square yards filling in low places	4,404
Square yards vegetation removed	20,900
Linear yards of ditches constructed	7,727
Linear yards of ditches maintained	830
Wooden culvert constructed	1

Canal Zone.

Work requests on quartermaster's department:	
Grass cutting	130
Screen repairing	179
Miscellaneous	963
Work requests on engineering department	208
Work requests on other departments	25
Notice served for abatement of nuisances	732
Arrests for violation of sanitary regulations	39
Convictions	36
Building permits approved	32
Inspections of closets	33,195
Inspections of stores	2,171
Inspections of restaurants	501
Inspections of shops	1,825
Garbage cans emptied	1,495,260
Closets disinfected	68,746
Houses disinfected	68
Rat traps used daily	1,201
Water and sewer connections made	2
Adult anopheles destroyed at houses	114,802
Adult culices destroyed at houses	181,385
Containers found with stegomyia larvæ	45
Adult stegomyia destroyed in houses	32
Material used:	
Larvacide ..... gallons	42,945
Crude oil ..... do	263,459
Rats destroyed	8,954

Table XXVI.—QUARANTINE SERVICE.

Ports of Panama-Balboa and Colon-Cristobal.

Vessels inspected and passed	1,496
Vessels detained in quarantine	141
Vessels fumigated on arrival	124
Vessels fumigated prior to departure	38
Pieces of baggage handled and stored	2,377
Crew inspected	127,306
Passengers inspected	64,695
Total persons inspected	192,001

Persons vaccinated at ports of arrival because of compulsory vaccination law	8,464
Persons vaccinated at ports of departure or en route because of compulsory vaccination law	15,967
Total persons vaccinated	24,431
Persons held in quarantine at the detention stations to complete period of incubation of yellow fever or plague	4,281
Persons held in quarantine on board vessels to complete period of incubation of yellow fever or plague	19,513
Total persons held in quarantine	23,794
Persons landed from foreign ports:	
Cabin	23,011
Steerage	17,058
Total	40,069
Persons embarked for foreign ports:	
Cabin	24,352
Steerage	26,243
Total	50,595
Apparent decrease for the year from foreign ports:	
Cabin	1,415
Steerage	9,185
Total	10,600
Persons arriving from coast towns on small craft	29,000
Persons embarked for coast towns on small craft	24,708
Apparent increase for the year from coast towns	4,292
Total persons landed	69,069
Total persons embarked	75,303
Excess over number landed	6,234
Less number for Pacific ports	3,247
Total apparent decrease for the year	9,481
Immigrants recommended for rejection	90
Certificates issued to outgoing passengers	334
Persons refused certificates because of trachoma	21
Bills of health viséed	1,122

BOCAS DEL TORO.

Vessels inspected and passed	343
Crew inspected and passed	17,151
Passengers inspected and passed	7,972
Passengers, in transit, inspected and passed	4,368
Persons held to complete period of incubation of yellow fever	37
Persons held to complete period of incubation of plague	18
Vessels fumigated	1

TABLE XXVII.—PERSONNEL REPORT.

[Average monthly number of employees at work during year.]

	1914	1913	December 31, 1914.		
			Officers and employees.	Skilled and unskilled labor.	Total.
Chief health office	13	33	4	.....	4
Medical store	8	9	4	4	8
Quarantine service	40	40	23	19	42
Health office:					
Panama	142	83	21	131	152
Colon	130	127	18	102	120
Ancon Hospital	431	548	236	111	347
Colon Hospital	30	166	12	11	23
Santo Tomas Hospital	5	6	5	.....	5
Taboga Sanitarium	.....	21	.....	.....	.....
Palo Seco Leper Asylum	19	14	11	6	17
Zone sanitation	125	224	19	78	97
Hospital farm	47	22	2	41	43
Dispensaries:					
Ancon	5	5	.....	.....	.....
Balboa	6	4	6	.....	6
Bas Obispo	.....	4	.....	.....	.....
Corozal	5	5	5	.....	5
Cristobal	4	6	.....	.....	.....
Culebra	4	7	3	.....	3
Empire	5	6	.....	.....	.....
Frijoles	.....	1	.....	.....	.....
Gatun	5	9	4	.....	4
Gorgona	.....	6	.....	.....	.....
Las Cascadas	.....	4	.....	.....	.....
Margarita Point	1	1	1	.....	1
Miraflores	.....	3	.....	.....	.....
Naos Island	2	2	1	.....	1
Paraiso	4	4	4	.....	4
Pedro Miguel	3	4	3	.....	3
Porto Bello	3	4	.....	.....	.....
Toro Point	2	3	.....	.....	.....
Gamboa	1	.....	1	.....	1
Total	1,040	1,371	383	503	886

TABLE XXVIII.—HOSPITAL CASES OF MALARIA AMONG EMPLOYEES.

Month.	Discharges.		Died.		Total cases.	Annual average death rate per 1,000.	Annual average cases per 1,000.	Number of employees.
	White.	Colored.	White.	Colored.				
January	115	371	0	0	486	0.00	118	49,328
February	76	207	0	0	283	.00	69	49,459
March	59	122	0	1	182	.26	47	46,611
April	44	99	0	0	143	.....	36	47,748
May	56	143	0	0	199	.....	50	48,039
June	73	174	0	0	247	.....	62	47,579
Admissions.								
July	80	259	0	0	339	.....	87	46,616
August	57	192	0	0	249	.....	68	44,132
September	44	172	0	0	216	.....	64	40,623
October	59	152	1	1	211	.62	66	38,416
November	48	133	0	0	181	.....	58	37,172
December	48	100	0	0	148	.....	49	36,224
Total	759	2,124	1	2	2,884	.07	65	44,329